Thesis

on

"Some observations on the coexistence of Pulmonary Tuberculosis and Diseases of the Vascular System"

by

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1897
The Coexistence of Pulmonary Tuberculosis and Diseases of the Vascular System suggested itself to me as a suitable subject for my thesis for these reasons: first, on looking into the literature of these combined conditions, one could observe on comparing the expressed opinions of the various authors that there existed considerable diversity of opinion in their essentials as well as in their details; secondly, because many such cases came under my notice while engaged as Resident House Physician at Brompton Hospital for Consumption and Diseases of the Chest, London; thirdly, because through the kindness of Dr. Green, as representing the Medical Committee, I was privileged to use the clinical and Post-mortem records for this purpose. Acting on this privilege, I collected a large number of records, extending over a period of about fifteen years, and propose to treat them seriatim as follows:

In former years the Coexistence of Pulmonary Tuberculosis, in Diseased conditions of the Vascular System, was recognised to be of uncommon occurrence.

Senior Physician to Brompton Hospital, one of the Physicians under whom I acted.
and so markedly so did Rokitansky regard this to be the case that on "Cyanosis" he says: "The cyanotic phenomena are summed up as follows: -

All Cyanoses, our rather, all forms of disease of the heart, vessels, and lungs, inducing cyanosis of various kinds and degrees are incompatible with Tuberculosis, against which cyanosis offers a complete protection, and herein we find a key for the solution of the immunity against Tuberculosis afforded by many conditions which at first sight appear to differ so widely from one another."

Again, in another volume he writes: 'The relation to tubercle of venosity (that is an habitual preponderance of venous blood in the system), and of cyanosis as resulting from mechanical hindrance at the centres of the organs of circulation and of respiration is of paramount interest, and even of great practical importance. The remarkable exemption of tubercle brought about by these conditions induces us to set forth the relevant facts as nearly as may be in their natural order. These relevant facts.

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Sydenham, Soc. Trans. Edited W. E. Swaine, M.D.
he arranges in a twofold series according as the venous habit and cyanosis are dependent upon the heart or the lungs as follows:

a) The first place is due to the fact confirmed by daily experience and convenient as a starting point, namely that persons laboured under enlargement, (dilatation, hypertrophy, and their complications) of the heart whether primary or superinduced by mechanical obstruction at its orifices do not contract tuberculosi.

b) Nor does tuberculosis coexist with such congenital vices of formation in the heart, or the great arterial trunks (absence, insufficiency, coarctation of either, persistence of ductus-arteriosus, &c;) which with their complications result in venoity and cyanosis, and as the anatomical measure of their significance in augmented volume of the heart.

c) Next in the series we have to mention the immunity afforded by many acquired anomalies of arterial trunks which resemble congenital vices of formation, such as coarctation from compression, obstruction, obliteration, or again by larger aneurysms in the vicinity of the heart. Apart from what has already been said on this point, the immunity is due to the mechanical impediment which the overpowering blood column in the dilated aortal trunk
opposes directly to the emptying of the left ventricle and indirectly to the influx of venous blood into the right heart. The same immunity is attained in venosity and cyanosis owing to hindrance to the pulmonary circulation more especially where the impediment reveals its serious character by a dilatation of the right heart."

I shall now, as previously indicated, endeavour to examine into each series mentioned byPokitansky by means of cases and records in the following order:

(1) Acquired - valves and lining membrane (a) mitral (b) aortic (c) mixed (more than one valve affected)

(2) Muscular deviations - Hypertrophy - Dilatation - Fatty

(3) Aneurysms (4) Congenital malformations

Under each section I have only attempted to collect the reports of those cases where clinical and post-mortem notes have been made in some detail. That these reports therefore do not represent all the cases of each series admitted into Hospital is evident from the fact that I have not rewritten those reports of patients discharged cured or relieved.

In first considering mitral disease, Pokitansky's theories have been quoted, which are, to a greater or less extent supported by Hayes, Byrge, Smith and by Clifford Allbutt, in their books as follows.
In it is said "On the other hand, it appears to be indisputable that at least one kind of valvarular disease of the heart is an almost complete bar to the development of Phthisis, mitral stenosis is exceedingly common in young persons, and it often fails for several years to affect the general health to any marked extent. That this lesion should be scarcely ever found in those who die of consumption is therefore a remarkable fact. Traube could not remember to have met with an instance. In our records of post-mortem examinations at Guy's Hospital from 1854 onwards, only four examples occur. One of Dr. Moxon's beautiful drawings in our pathological theatre shows how ill tubercular inflammation of the lungs thrives in cases of mitral disease."

In Clifford Allbut's system of medicine is the following: In cases of chronic and acute Tuberculosis we meet with Endocarditis 'occasionally'. Are we to look upon such cases as belonging to the infective type of Endocarditis, or do they belong to the benign form, the tubercle bacillus acting as a remote cause?


"It must be noted that in a few cases of acute miliary tuberculosis, vegetations on the heart valves of recent origin have been observed. He mentions a case where the mitral valve showed deposits which proved to be masses of fibrin and leucocytes, and contained tubercle bacilli, and further on it is added that it is rare to meet with either acute rheumatic arthritis or valvular affections of the heart in persons suffering from phthisis."

At another part, two cases of mitral stenosis are referred to, and taking the cases recorded by Seissier, Kidd and others, a total of 31, in which the association of mitral stenosis with tubercle was proved after death. Of these, 11 presented also the sign of tricuspid stenosis, or of endocarditis affecting the tricuspid valve, and 5 others manifested disease of the aortic valves. Uncomplicated mitral stenosis therefore was present in 16 cases only.

On the other hand, from the works of the following writers, by way of contrast, we find it said in vol. iv. p. 476, of Cramer's book on 'Principles and Practice of Medicine' that chronic heart disease, arterio-sclerosis, aneurysm of aorta, etc., are conditions which favour infection with tubercle.

It is remarkable how many of the subjects of these disorders in general hospital practice, the fatal event is a terminal acute tuberculosis most frequently of the serous membranes. Again, and onwards he repeats that "A terminal acute tuberculosis of one or the other of the serous membranes is a very common event in all forms of cardio-vascular disease. In chronic and arrested phthisis, arteriosclerosis and plebo-sclerosis are uncommon."

Potain has stated his opinion that the occurrence of mitral stenosis in the course of pulmonary tuberculosis is so frequent, that there seems to be a causal relationship between the two diseases. Jaffé has gone much further than this. He considers that some form of tuberculosis is the cause direct or hereditary of the pure form of mitral stenosis but like Letulle in his searches for bacilli and for any lesion demonstrably tuberculous in the diseased structures surrounding the mitral orifice has always been fruitless."

On examining the causal relationships of the mitral series of cases, it is found that by far the greater number of cases have an insidious commencement, no definite source of origin for the symptoms being obtainable from the patient. Eighteen in my collection of.

P. 316. Opuscit.
thirty were so described, the rheumatic diathesis accounted for six, pneumonia and pleurisy were referred to, as the sources of two, and two each to influenza and pregnancy. Of the eighteen cases having no definite source of origin, I find sixteen had an hereditary phthisical predisposition, while two were doubtful.

Of the sixe cases with rheumatic history, four had rheumatism first, taking on phthisical symptoms later; two had phthisis first, and rheumatic symptoms later. Of the sixe, two only had a family history of rheumatism. Of the two cases where rheumatism came on after the phthisis, the duration of the illness thereafter in both cases was less than a year.

The prognosis in those cases (where there is no history of rheumatism associated with the pulmonary disease) is much better than in those where rheumatism has supervened; for, of those having a rheumatic history, only one patient reached the age of thirty.

The sexes are equally affected, fifteen cases in each. Seventeen occurred in single patients, eleven in married, while on two there was no report.
Pathological lesions:

Positions in the lobes:

Of these thirty initial cases, the left upper lobe was primarily affected in thirteen, the right upper lobe in twelve, three others being doubtful as to whether the right upper lobe or the right lower lobe was the primary seat of the lesion, the left lower lobe containing the only lesion in one case, while in the remaining case there was doubt as to the seat of origin.

Having now examined the original seat of the lesion, we will consider the progress of the disease in the other lobes. Where the primary disease commenced in the left upper lobe, the next lobe to be affected was almost equally the right upper lobe and the left lower lobe, but in cases where the disease commenced in the right upper lobe, the right lower lobe was by far the most usually next affected.

Nature of lesion: In 70% of the cases, there is cavitation in the lobes of greater or less degree; the presence of caseous walls to the cavities being more pronounced in the left lung than in the right, and there is a tendency for the left lung to become more acutely affected than the right.

Effects of superadded conditions:

The most frequent superaddition is one of fluid...
to a greater or less degree either in the lung itself, in the form of congestion or oedema, or, in the pleura, ascereum—simple, purulent or tubercular.

An oedematous condition of the lobes is an almost invariable concomitant in these conditions where there is lung substance most marked at the bases of the lobes. It has been said by some that the tubercular growths do not grow under these circumstances, but a glance at these pathological records will perhaps be sufficient to indicate their presence, although it is frequently found that the apices for instance are acutely affected with tubercle, while at the bases where oedema is present, the tubercles are fewer. It may be inferred that oedema renders the soil less suitable for the growth of tubercle bacilli. So much so did this fact impress Büttner that he applied this principle of artificial hyperaemia to his treatment of tuberculous joints.

Much more antagonism to the growth of the tubercle bacilli is seen in cases of pleureisy with effusion, and in the London Temperance Hospital, where I am acting as Resident Medical Officer at present, I had under my observation a girl with organic mitral disease who developed a tubercular pleurisy on the right side.

London Temperance Hospital Reports. 1900.
(tubercle bacilli being found in her sputum) the dulness on percussion gradually rising until it extended to the spine of the scapula. I tapped her on several occasions removing comparatively small quantities on each occasion. The whole practically cleared up, the temperature which formerly was high dropped to normal, and the disease became quite quiescent when she was discharged. I have seen this too after empyemas on several occasions, and I have one case in Hospital at present, whose phthisical symptoms after tubercular empyema, are gradually becoming, and I believe ultimately will become quite quiescent.

Of the cases of pneuma thorax in these combined conditions, one case which I had under my care at Brompton was a medical man who had contadted right apical phthisis some years previously, and had on his admission fresh signs of pulmonary tuberculosis and pleurisy of the right base. Suddenly, shortly after his admission, he was seized with severe pain, great dyspnoea, in brief, all the signs of a pneuma thorax. In 46 hours his urgent symptoms gradually subsided, and a typical bell sound (with coin test) remained for sometime afterwards.

Within three months of his admission his tubercular symptoms after the pneumothorax became again quiescent; and his temperature returned to normal, and he gained rapidly in weight. For the time being at any rate, he was cured. The question is, did this pneumothorax have a curative influence in this case, with a markedly hypertrophied heart, which was dragged over to one side by the contracted lung? In a considerable number of cases of tubercular lungs, where I have punctured for diagnostic purposes with an aspirating needle, even in some cases without finding any fluid, I have observed that in many, the symptoms subsequently unaccountably became quiescent. I believe that these superadded conditions, whether taking the form of congestion, fluid or air, if the patient be able to withstand the initial dangers, are beneficial, and for a time at least curative in their action.

In about half of the initial series, there was found a history of haemoptysis of a greater or lesser degree. In several there were frequent attacks, and in some, haemoptysis was attributed by the patients as the source of onset to their illness, and in a considerable number of these deaths from fatal haemoptysis, from a ruptured aneurysm, were recorded in the post mortem report. That haemoptysis should be so prevalent in initial disease
Interesting when compared with simple aortic endocarditis, where haemoptysis is uncommon, and is rarely the immediate cause of death.

Before finishing the subject of mitral disease, one other point might be mentioned. On making daily examinations of these cases in hospital in some where the heart sounds apparently normal on admission underwent changes while suffering from tubercular disease of the lungs. The sounds became short and rapid, were persistent and had no definite relations to time of day or food, after a time becoming muffled and unless for an occasional pain or fluttering sensation, no complaint was made by the patient. This modification of the cardiac condition did not clear up, but gradually the sounds were replaced by a murmur heard first at the apex only. This was followed by a murmur in the mitral area, at first localized, but afterwards being undoubtedly conducted towards the angle of the scapula. These facts it would have been interesting to follow up. Had it been possible for the patient to remain in hospital, as vegetations are so frequently found post-mortem in phthisical patients without any history of rheumatism, gout, or other usually attributed cause of endocarditis. That the tubercular process was going on in the lungs are direct sources of the
Endocarditis, whether due to the tubercle bacilli themselves or their products, there seems to be no doubt.

Endocarditic change affecting only the aortic valves to any marked degree is a rare condition when associated with pulmonary tuberculosis. I have only succeeded in collecting a series of 12 cases, one of which I had under my own care (No. 7). From the history given in these cases, it was found that this particular form of cardiac disease was more prevalent amongst males. Five were recorded as being between the ages of 40 - 50 years, three between 20 - 30, two each between 30 - 40, 50 - 60 respectively, no case in this series being under the age of 20.

Disease of the aortic valve alone is thus apparently one which more especially occurs in adult life. In four cases the lesion was attributed to rheumatism, one of which had syphilis also, and two had anginal symptoms; four could give no definite aetio, two were accounted for by pleurisy, and one to pneumonia.

On glancing through the reports concerning the probable original positions of the pathological lesions, 7 out of the 12 cases affected the right upper lobe.
In two the primary lesion was observed in the left upper lobe, and in one right lower lobe was first affected with tubercle. In two the site of the primary lesion was doubtful.

Again, the secondary lesion (in the seven where the disease commenced in the right upper lobe) probably affected the right lower lobe in four instances, and the other three the left upper lobe. Of the two having the original tubercle in the left upper lobe, one occurred secondarily in the lower lobe of the same side, the other in the right upper lobe.

In this series the right lung is most usually affected, and the tubercular lesions tend to chronicity more so than in the initial series.

The preceding sections have briefly dealt with endocarditic changes in one valve only. The third section relates to pulmonary tuberculosiis and cardiac disease where more than one valve is involved, and these are hereafter called mixed cases.

In this series are 13 cases, of which Nos. 14 and 13 were in hospital during my tenure of office. There appears to be no preference shown in these cases for either sex.

Six attributed the commencement of their illness to rheumatism, two to influenza, one to pneumonia, and three were indefinitely described. In all the rheumatic
cases, the cardiac disease was probably primary, the pulmonary disease appearing later.

Here again, when the phthisical symptoms have appeared after old endocarditis from rheumatism, the prognosis is usually bad. A rather remarkable indifference to this rule was however shown by No. 8. The history as told to me by the patient was briefly this: rheumatic fever, act 10, which was soon followed by palpitation and dyspnoea, which afterwards persisted. This was the probable commencement of her heart disease. Three years later she had an attack of haemoptysis. This was probably on account of her heart disease, and not of a tubercular nature, as probably the small-pox which she had the following year, or the diphtheria which she suffered from (act 17), would have caused fresh symptoms of tubercle to reappear. At the age of 21, the patient had a premature child, and during the puerperal period, she caught cold, accompanied with cough and expectoration. Shortly afterwards, she had another attack of haemoptysis, and for a time afterwards her other symptoms became more troublesome. Two other children were born, one a year later, and the other six years later, the former died of phthisis, while the latter probably suffered from tubercular spinal disease. If this latter attack of haemoptysis indicated the commence-
of the pulmonary disease, the combined cardiac and pulmonary tubercular conditions must have coexisted for 
20 years, and in the presence of rheumatic history. 
The post-mortem examination shewed a cavity at the right apex surrounded by much pigmented fibrous tissue, and evidently was the original seat of the disease in the lung. It also shewed evidence of old endocarditis in the heart indicated by thickening of the whole endocardium, thickening and puckerling of the valves, thickening shortening and matting of the chordae tendineae, and atheromatous conditions generally.

The ultimate cause of death was probably due neither to the old cardiac nor pulmonary disease, but to a recent endocarditis indicated by fibrous deposit on the mitral valves, and neighbouring endocardium produced presumably from the direct acute Broncho-pneumonic exsudating processes acquired three months previously.
Pollock asserts that "Diseases of the heart whether of walls or valves is by no means an infrequent concomitant of phthisis. It is found where acute rheumatic inflammation has been the exciting cause and it may fairly be doubted whether the rheumatic constitution does not often induce thickening of the valves as a slow chronic result of the diaphoretic temperament called rheumatism. In 52 instances of disease of the heart with phthisis, there had been no previous rheumatic attack. The disorders of the mitral valve were slightly in excess of those of the aortic. Dilatation in some of the cavities of the heart was far more frequent than simple hypertrophy. The antagonisms of both of these conditions of the heart to phthisis have been repeatedly stated, and in the case of dilatation the assumption is that whatever tends to increase viscosity of the blood opposes the development of tubercle. Experience proves that both dilatation and hypertrophy retard the progress of tubercle, and a prognosis for length of duration may safely be offered. Almost all the cases of this combination which I have witnessed have been slow and the tubercular disease has not advanced to that extreme disorganization of both lungs, ..."

Indications of Prognosis of Consumption. 1865. P. 272
which is the common end of ordinary phthisis. Death has taken place rather from the cardiac than the pulmonary disease. It is to be remarked that in these mixed cases, the hereditary disposition is rather to phthisis than to rheumatism, and that the parent may have the one disease and transmit the other.

From a pathological point of view the most typical examples of cardiac dilatation are those afforded by fatty degeneration of the heart muscle. For investigations on this subject, a tabulated series of cases of co-existent phthisis and fatty disease of the myocardium has been made. In the light of these cases it would appear that this generalisation is not absolutely correct; for its basis is too great.

Looking through the reports of a large collection of cases where the cardiac condition is more of hypertrophy, dilatation being either in its earliest stages or probably not present, it is found that the pathological condition of the lung has a great tendency to run an extremely chronic course—a fibrillar indurated condition being almost invariably present.

When this statement of Pollock's is examined in detail alongside the series of 11 cases of fatty degeneration of the heart with co-existent phthisis, it
is found that the latter pursued a particularly acute course, as shown by the clinical notes, and the pathological examination. The duration of illness in every case terminated fatally within a year which hardly justifies a lengthy prognosis.

Although a prognosis for lengths of duration may be given in cases of hypertrophy, there can be no doubt that cardiac dilatation tends more to a rapidly fatal termination and should indicate a bad prognosis.
On the subject of aneurysms, Rokitansky asserted:

"Even the arterial disease upon which spontaneous aneurysm depends, and which consists in the endogenous evacuation and stratification of a fibrinous substance upon the internal blood vessel membrane is in its more highly developed grade very rarely associated with tuberculosi. The immunity is perhaps based upon an exhaustion of the materials for tubercle due to the deposition of a solidifying blastema out of arterial blood. A more decided immunity is brought about by aneurysms, or by a single extensive aneurysm in the proximity of the heart involving the endogenous coagulation of great fibrinous masses and a consequent hydraemia through defibrination of the blood."

Again on atheroma, "In proportion to the extent of the disease of the arteries, so much the less likely is it to be combined with tuberculosi, and this disease undoubtedly is in part the cause of that immunity against tuberculosi, which we constantly notice in large aneurysms of the trunk of the aorta. The grounds of this relation are not known, but it is not wholly improbable that this immunity may arise from a similarity between the process of deposition (which occurs in the form of the separation of fibrin) and the tuberculous processes by exhausting.

the arterial character and the materials of the blood."

Again "It is a very important fact that spontaneous aneurysm never exists in combination with tuberculosis. This immunity is based on the following grounds:—

a) The diseased condition of the coats of the vessel on which aneurysms depend, constitutes a cause of immunity against tuberculosis.

b) Large aneurysms of the aorta give rise to consecutive disease of the heart in the form of dilatation with a readiness proportional to their vicinity to the heart. It is therefore in consequence of the venosity and cyanosis occasioned by the latter disease that aneurysms of the aorta afford a decided immunity against tuberculosis."

From this series of 13 records, the right upper lobe was affected primarily in 6, the left upper lobe in 2, the right lower lobe in 2, while the remaining 3 were doubtful as to their primary positions of disease in the lungs. Of the 6, where the right upper lobe was affected first, the secondary deposits appeared to affect the right lower lobe, and the left upper lobe almost equally. There was a definite hereditary phthisical history in 7 cases.

(12)

In looking over the post-mortem records of this series one does not generally find the lungs affected to nearly the same extent, as in cases of the previous sections, the tendency being throughout the lungs, a chronic one. The combined conditions have apparently coexisted for many years, death taking place from the cardiac rather than the pulmonary disease. In this series the right lung is much more often affected than the left; eight in the former to two of the latter, and three were doubtful as to their point of origin.

That pulmonary tuberculosis does occur along with aneurysmal and atheromatous conditions of the blood vessels is shown in the appended series. In no series of cases is there so much distinct evidence of healing processes. As in this, tubercular lesions do not often occur, the disease does not appear to progress rapidly, and in many of them the lesions take on fibroid conditions. Kekhtansky states that spontaneous aneurysms never coexist with pulmonary tuberculosis, and proceeds to give theoretical reasons in support of his statement. This first reason is that possibly tubercle and arterial degenerative disease, both begin as a deposit formed from the fibrinogenic elements of the blood, that the usage of this material by arterial disease may exhaust the power of the tissues to form such, and therefore, tubercle
rarely succeeds aneurysm. This mode of reasoning however, hardly holds good in the light of modern ideas of the physiology of the blood. In traumatic anaemia the old process of blood transfusion has been discarded in favor of the infusion of normal saline solution. The system may lose a large percentage of its total blood, including fibrin forming elements, and this be replaced by normal saline solution; yet in a very short time, there is no appreciable difference in the chemical, physical or physiological properties of the blood, and its fibrin forming properties seem in no way decreased by such preceding loss.

In the face of such facts, it scarcely seems likely that the withdrawal from the blood of the constituents requisite for the deposit of an aneurysmal clot would have any permanent constitutional effect on the physiological or pathological coagulative properties of the blood.

Although we cannot follow Rakitansky in allowing that these pathological processes cannot coexist, we are led to believe from the consideration of these quoted cases that there is however a very distinct pathological relationship between these processes. When they do coexist, this relationship forms a contrast to the mutual effect of tubercle
lung and fatty disease of the heart muscle. We find that in every case quoted, the pulmonary lesion is characterised by chronicity, and we are led to believe that the pathological influence of aneurysmal disease on pulmonary tubercle is to lead to chronicity in the latter.

In no form of cardiac disease is cyanosis more marked and frequent than that seen in congenital malformations. Of these pulmonary stenosis, interventricular septal openings and patent foramen ovale are the commonest. Besides these other varieties of congenital heart disease have been found in coexistence with pulmonary tuberculosis. Here again it is clear that Hokitiansky's statements are rather misleading. I now briefly quote two such cases which I had under my care, & examined, which presented several points of interest:-

1. Fred Batters, aged 17, single. Pale.


Family history. Father died 45, aged 35, father's sister died 49. No history of rheumatism or gout.

Aged 7, he had measles, followed soon afterwards...
by enlargement of glands. He always suffered from shortness of breath, occasionally got blue (lips and tips of fingers noticed specially) cough and expectoration had been troublesome only during last four winters. Had an attack of haemoptysis in Nov. 9) (p. 42) and another about six weeks ago, and his sputum was bloodstained on admission. He was an in patient at Brompton in Nov. 9). On admission he suffered from cough, expectoration, dyspnoea. On superficial examination he appeared to be comfortable in bed, pale, bright eyes, moist skin, incurved nails, chest fairly well covered, flattening under clavicles, most marked undue right. No oedema. On palpation apex beat was felt in 6th interspace, and ¾ inch outside nipple line. Marked sclerosis of arterial system was observed. On auscultation, a general systolic murmur was heard over sternum where point of maximum intensity was on the sternal side of the fourth right costal articulation. The systolic murmur was not well conveyed up the carotid artery. It could be heard at the back of the chest on either side. The second sound was clear. Distinct signs of phthisis were present on both sides, accompanied by those of cavitation of the right upper lobe, both in front & behind. On comparing these brief notes with those taken when the patient was
Hospital a year previously. I observed, that the
point of maximum intensity of the murmur had changed
and instead of being over the fourth right costal sternal
articulation, it was over the corresponding area on the
left side, and that instead of having only impaired
resonance to percussion note, and a very few moist sounds,
there are now, well marked cavernous sounds of large moist
rales, indicating cavitation; and further, whispering
retronasal, and tubular expiration, heard on the right
side. The foregoing indicated a progressing
pulmonary tuberculosis, although apparently not
very rapid in its cause. In this case there was
marked arterio-sclerosis.

2. Bella Haven, act 32. single.

Adm. May 1, 98.

Family history. Father died, act 30, scarlet fever, mother
died 4, act 56.

Examination of sputum on May 10, 98, shewed tubercle
bacilli to be present in abundance, but on Oct. 11, Nov. 16,
Dec. 6 of same year, on Jan. 17, 99, none were found.
in the sputum.

Patient never had rheumatic fever. Act. 15, she
began to suffer from palpitation, pain & shortness of
breath, occasionally fainting and getting blue. Five
years ago, she had an attack of haemoptysis, and then
Edema of the legs was first noticed. In 1893, she was an inpatient for 4½ months for heart disease. In 1894, she had another attack of haemoptysis, and was again an inpatient for 4½ months. She had another attack in 1896, on account of which she was readmitted, having also much cough, expectoration, dyspnoea and night-sweating, and for some time previously had lost in weight. While in bed she felt comfortable, was fairly well nourished and not cyanosed. On superficial examination, the apex beat was observed to be in the 6th left interspace, 1½ inches external to the nipple line. In this case, the systolic murmur which was heard all over the sternum, had its point of maximum intensity near the centre of the upper part of the sternum, not well conducted into the carotids. There were well marked signs of phthisis as far down the chest as the 4th interspace on the right side in front and for a corresponding distance behind. There was impaired percussion note over the apex in front and behind on the left side. On June 14, cyanosis was well marked after movement. On June 21, hiccup was very troublesome. Frequently, after June 21, there were similar attacks of hiccup, frequently accompanied by vomiting, sometimes occurring more than once during the 24 hours, and during which the pulse became very weak.
On Jan. 17, there was an attack of hiccough which lasted 20 minutes and was preceded by pain in the left side. Again, on Jan. 22, another such attack lasted 3/4 minute, accompanied by marked cyanosis, and pain in left side.

In this case the patient attained the comparatively long age of 32 years. Another case in this series attained the age of 39 years, q.v.) Here also the phthisical symptoms were of a distinctly chronic character, and had lasted for several years. Here too, haemoptysis which is so frequent in these cases, occurred from time to time. Here as in many other such cases, cyanosis did not appear probably until the patient reached the age of 15, and which became more marked on exertion, and much more so when accompanied by the attacks of hiccough to which she was so prone.

One other point in this case was observed, namely, on one occasion the presence in great numbers of tubercle bacilli was demonstrated on May 10, 1898, but although the sputum was frequently examined afterwards for the bacilli, they could not again be seen. In a considerable number of simple cases of phthisis a similar report to this was given, although, there was no doubt as to the existence of pulmonary tuberculosis. This circumstance occurred especially in early phthisical patients, and in old fibroid tubercula.
case, whose disease apparently became quiescent, a slight cough with some expectoration being the only occasional and remaining signs.
That Obitansky's theory of antagonism in the coexistence of pulmonary tuberculosis with various forms of disease throughout the vascular system was exaggerated, the previous pages amply indicate. Although in no form of vascular disease does this antagonism amount to a complete immunity, yet there appears to be the underlying truth, namely the tendency to chronicity and natural cure demonstrated most markedly in the combinations of aneurysms, hypertrophy, and simple aortic disease with pulmonary tuberculosis.

This antagonism is less apparent in the other forms of vascular disease referred to previously, namely, the initial and mixed forms and least of all perhaps in those cases of dilatation, associated with fatty degeneration of the cardiac muscle.

The statement, that chronic heart disease and aneurysms of the aorta are conditions which, according to Deles, "favour" infection, is too sweeping, for, in searching for records of cases over a long period of years of simple aortic disease and aneurysms of the aorta, only a very few such records of each could be found.
From the preceding pages, it may fairly be concluded that the coexistence of pulmonary tuberculosis, with either simple aortic disease or aneurysm, is a rare condition, and that moreover, when coexisting, the pulmonary lesions do not tend to run a rapid course, nor is the pulmonary disorganisation so complete as in the other forms of cardiac disease.

The remarks of Pye-Smith, and Jeissier are diametrically opposite and neither of their views is substantiated by the series of records of cases here represented.

That Pelains's statement that there is a causal relationship between the two diseases is probably correct, these observations tend to corroborate, for, the relationship between the pulmonary disease and the presence of recent cardiac granulations has been so frequently found coexisting in initial and mixed cases that in the absence of other usually accepted causes, it may fairly be assumed that the pulmonary disease is the direct source of these recent granulations.
N. B.

The following indicates the meaning of the abbreviations used throughout each series of records.

U. L. = Upper lobe
M. L. = Middle lobe
L. L. = Lower lobe
ρ = Phthisis
Adm. = Admitted
\{ Act. = aged. \}
\{ ? = age doubtful \}
\{ or cause of death doubtful. \}
"Mitrval Cases."


Illness commenced five years ago with cough, which was most troublesome in winter. Three years ago, patient began to lose weight. Two years ago, huskiness of the voice was first experienced, a was followed soon afterwards by dyspnea. In Feb, 91, patient had an attack of haemoptysis (blood in sputum) with several attacks since.

Family history: Father died, age 51; mother died, age 25; cancer; one sister died at 19.

Heart: 11 oz. On the auricular surface, close to the free edge of the posterior flap of the mitral valve, there was a crop of pale granulations, one quarter inch in extent. Similar but smaller granulations were seen on the anterior flap.

Right Lung: congested. In the centre of the U.L., there was one small ragged cavity. Elsewhere in both lobes, caseating tubercles (size of a bean) were found throughout the lung. Wedge-shaped areas containing tubercles were found near the surface on section.

Left Lung: congested. Several large ragged cavities were observed at the apex. Throughout the lung elsewhere, caseating tubercles were densely packed together. Here there breaking down.

Adm. Feb. 12, 92. Died Apr. 11, 92.
Patient had rheumatism 2 years ago. Present illness commenced 12 months ago with cough & expectoration, both becoming gradually more marked. During last 9 months patient has lost 3 stone in weight. Previous to admission, pain was felt in upper left chest. Night sweats & diarrhea have supervened.

Family history: Father died aneurism. Mother alive & well.
No 4 in family.

Heart: 100. Mitral valve admitted tip of one finger only, the flaps were much thickened, especially the posterior segment. Granulations were found on the auricular aspect (size of a cherry stone).

Right Lung: U. L. One large cavity, several smaller ones containing caseating material, surrounded by fibrous tissue were observed. M. L. Caseating area only were seen.

L. L. At its upper part numerous closely set yellow tubercles were found. Lower portion was congested with isolated patches of groups of tubercles scattered throughout.

Left Lung: U. L. was nearly excavated by one large thin walled trabeculated cavity. L. L. Numerous small cavities were found at its upper part. Lower it was congested.
Beyond this towards the base it was packed with yellow tubercles.
George Shepherd, aged 47, married, soldier for 19 years, clerk afterwards. Adm. Apr. 29, 92. Died May 12, 92.

In service, 1857-1878. Malta 3 years. India by age
Fever & ague 12 years ago. Suffered from dyspepsia, Novr. 1880. Present illness began with cough expectoration 1 month ago, which gradually became more marked, being accompanied by loss of weight & anaemia. During last 2 months, night sweating & dyspnoea have been present.

Heart. QRS. On auricular aspect of each leaf of the mitral valve, there was a row of granulations of large size. The chordae tendineae were thickened.

Right Lung. U.L. There was much fibrosis throughout. It contained irregular rough cavities surrounded by fibrous tissue anteriorly, & some caseation posteriorly. M.L. Contained some caseating nodules, a few anteriorly, but numerous posteriorly. In latter position there were one or two small cavities. L.L. Upper part was consolidated & fibroid, containing a few caseating nodules. Below which, they were sparser, the base was oedematous.

Left Lung. U.L. Contained a cavity with caseous walls & some fibroid tissue, otherwise crowded with caseating tubercles. L.L. There was a recent patch of lymph over the upper & posterior parts about middle of which a perforation leading to a small caseous walled cavity could be seen. The upper two thirds of lobe presented numerous caseous masses. Several ragged cavities. Lower third was collapsed.
Sarah Wheaterly, age 37, married, artist.
Adm. May 6, 92. Died June 7, 92.
Patient had measles as an infant, stomach fever at 6 bronchitis 3 years ago, subject to cataracts cough since.
Present illness began 9 months ago, with cough especially at night; profuse expectoration. During last 6 months has lost in weight; has had night sweats, has suffered from dyspnea, accompanied with cyanosis. No history of rheumatism.
Family history. 1 brother died of acute, 2 aunts &uncles died of; 2 daughters with sternal faces, 1 niece died of acute surfice.
Heart. Soft, Mitral orifice admits 1 finger. Staps of mitral valves are much thickened & shortened. There are numerous old fibrous vegetations on the auricular surface of the anterior leaf.

Right Lung. U. L. contains a large irregular cavity with soft caseous walls, surrounded by fibrous tissue, otherwise the lung contains masses of soft tubercle becoming less numerous towards the bases of the lobes.

Left Lung. In U. L. there is a large irregular cavity containing trabeculae, thrombosed blood vessels, surrounded by firm fibrous tissue. In L. L. there are numerous masses of soft tubercle at its upper part adjacent cavity.

Adm. Dec. 27. 89  Died Jan 11. 90.

Patient was quite well till 2 years ago when caught cold and began to suffer from cough & expectoration, which was blood-stained, since which patient has never been well. After 8 months illness, dyspnoea came on. Three months ago patient had pains in back, night sweats, accompanied with increased dyspnoea. Patient has become emaciated & anaemic.

Family history. Father died from chest disease in a fit.

Heart. Systolic mitral orifice admits one finger. Its valves are thickened with one or two small vegetations of funnel shape. The chordae tendineae are thickened & shortened. A few vegetations also are seen on the tricuspid valves.

Right Lung. U.T. is riddled with cavities, especially posteriorly. Anteriorly it is studded with caseating tubercles, many of which are softening. M.T. is studded with caseating tubercles. L.T. contains numerous small cavities at apex, is studded anteriorly with caseomembranes. Towards the anterior upper border there is a cavity containing a haemorrhagic sac. (Tubal haemoptysis).

Left Lung. U.L. contains numerous large cavities posteriorly, otherwise there are a few caseous masses & several smaller cavities. Remaining parts of lung are tough & of a slate grey color.

Adm. March 25, 90. Died July 11, 90.

Patient had measles and whooping cough when five years old. In June 1889, patient had chorea. Never well since. In October 1889, had scarlet fever. In Feb '90 began to suffer from puffiness of face, swelling of legs, a paroxysmal dyspnoea, which symptoms were present on admission. The other symptoms being cough, expectoration, pain.

Family history. Tubercular disease on mother's side.

Heart. 11/2 oz. Mitral orifice admits of fingers. There are a few granulations along the margin of the flaps.

Right Lung. Endurated throughout contains a few scattered tubercles.

Left Lung. Both lobes contain a few scattered tubercles; are harder than normal.
Charles Bragg. age 25 single gardener.
Adm. Sept. 2. 85 Died Dec. 85.

Health previous to 6 months ago when patient caught cold & lost his voice, which returned at end of a week. This was accompanied by cough and expectoration, which caused itching. Patient was at work till month ago. Haemoptysis 1st 3 months ago. (Hint Sleek). 

Family history. Mother alive, but has suffered from cough for years. 3 brothers died, one aged 32 spat blood was ill few weeks, second died aged 28 from inflammation of lungs, third died aged 25 from typhus fever. 1 sister died aged 18 fever.

Alive but delicate.

Heart. 14 ooz. Tricuspid orifice admits tips of fingers. Mitral admits 3. Along the auricular margins of the mitral valves are closely set translucent granulations (size of pin's head). 

Right Lung. U.L. contains a large trabeculated cavity with thin walls, rest is muddled with small cavities. The intervening lung tissue contains caseous centres, middle & lower lobes are spongy & have closely set caseous nodules.

Left Lung. U.L. Upper half is in a state of catarhal pneumonia, in which are a very few tubercular nodules. Posteriorly there is a small ragged cavity. Towards the base of the lobe it is spongy containing a few nodules. L.L. Spongy & modules sparse.
8. Isaac Moore, 22 single boatman.
   Adm May 21, 98 Died May 28, 98
   For many years the patient has had a winter cough accompanied by expectoration. Much more marked at Xmas 97. In April 98 began to lose flesh, at this time also suffered much from diarrhoea.
   No family history of 4.
   Heart. 90s. Three vegetations on the auricular surface of the aortic cusp of the mitral valve were seen, two of which project considerably from the valve.
   Right Lung. There are numerous caseous nodules, many of which are racemose in shape, others consisting of small yellow points in the upper middle lobes, in the upper portion of L.L. There are also numerous small excavations in the U.L., the apex of L.L. with some fibroid thickening around.
   Left Lung. Here the disease is more extensive. In the anterior portion of U.L. there is an irregular excavation, posteriorly it is honeycombed with smaller cavities. L.L. In the upper two thirds, two large cavities surrounded by fibroid tissue, occupy that area. The base is sparsely infiltrated with caseous nodules.

Adm. May 25, 98. Died Sept. 4, 98.

Patient had no illness previous to five months ago, at which time he caught cold, was confined to bed for three weeks, suffering from cough, expectoration. Soon afterwards, these conditions were followed by severe night sweats, pain in left arm pit, dyspnoea, loss of weight, much general weakness.


Heart. Mitral valves were in a state of chronic endocarditis.

Right Lung. The U. L. and L. L. were extensively cavitated. Otherwise they contained numerous caseating areas. M. L. was healthy.

Left Lung. There was much cavitation and caseation in U. L. In the L. L. there were numerous tubercles.
Patient has always complained of cough since childhood. Last November was in Westminster Hospital suffering from pleurisy & inflammation of lungs. For some time past patient has been losing weight on admission suffered from cough & expectoration, dyspnoea & during the last month has had night sweats.
Family history. Father alive but suffers with rheumatism. Mother died young 4 yrs. 1 sister alive but delicate.
Heart. Ss 80. On both mitral & tricuspid valves there are numerous small cauliflower shaped vegetations, & microscopically no tubercle bacilli were found.
Right Lung. U. L. Fibroid where lung tissue remain it is filled with caseous foci, near its base there is an irregular cavity having caseous walls. M. L. is emphysematous scattered throughout are patches of broncho pneumonia containing caseous foci. L. L. The apex is fibroid, there are two small cavities with fibroid walls. Here there are patches of broncho pneumonia & caseous nodules.
Left Lung. In the substance of the U. L. immediately under the pleura there is an irregular cavity, with caseating walls, in its neighbourhood are smaller cavities & caseating masses, some breaking down. In the substance of L. L. near apex there is a cavity (size of walnut) with caseating walls, otherwise lobe contains much fibroid tissue.
II. George Martin act. 30 married hairdresser.

Patient has been quite well till 2 years ago, when he began to suffer from cough & expectoration, since Xmas '95 has gradually been losing weight, these conditions prevail on admission together with pain in right side, dyspnoea, especially on exertion, for some time past, there have been night sweats.

Family history. Mother died of indigestion, brother is delicate.

Heart 12 97. On the auricular surface of the mitral valves, there are numerous fine semi-translucent vegetations some of which were pedunculated.

Right Lung. V. L. There was a large cavity (size of an orange), surrounded with fibrous tissue.

Left Lung. In V. L. there was a cavity half the size of that in right lung, oval in shape.

Both lungs were marked emphysematous dotted throughout here there are tubercles. The extreme bases only are engorged, contain some small recent tubercles.
12. Elizabeth Axcell. aet 21 single. at home.
Adm. Nov. 25 96  Died Jan. 31 97

No illness previous to 12 months ago, when patient was said to be suffering from anaemia & cough, but not much expectoration. Recently the cough & expectoration have become more troublesome. There has been much night sweatin & loss in weight, also considerable dyspnoea & diarrhoea.

Family history. Mother died aet 44 y. Old.

Heart. 5/4. The mitral valves show vegetations on both cusps near their free edges.

Right Lung. U. L. is almost entirely excavated, the cavity being lined with granulations. A similar cavity is found occupying apex of R. L. The remaining lung tissue contains caseous tuberculous areas and numerous rounded nodules of yellow caseated tubercle.

Left Lung. Is engorged. In U. L. there are large caseous irregular masses of tubercle at apex, one of which has broken down & forms a small cavity. In L. L. there are numerous coalescing nodules in upper third, & in lower two-thirds the tubercles are numerous but smaller.

Adm. Mar 26 91 Died Aug 27 91.

Patient had rheumatic fever at the age of 13, has had frequent attacks of rheumatism since. Two years ago patient had pneumonia on right side, was ill for 8 weeks, after which she resumed work. Last July patient was admitted into hospital with swollen feet. Three weeks ago she began to suffer from faintness accompanied with fluttering sensations in the cardiac area. On admission, patient is pellagous, breathes quietly, complains of pain in left chest, of cough & expectoration. There is dyspnea on exertion. Swelling & pain in hands, joints of which are enlarged. There has been considerable night sweats for last 3 weeks & loss of weight.

Family History. Father died 28 yrs, mother alive but suffers from pleurisy. 2 brothers died, unknown causes. Father's sister phthisical.

Sect. 21 yrs. Great hypertrophy & dilatation of all the muscular structures. The mitral valves are fused, form a funnel, admitting tips of 2 gloved fingers. The chordae tendineae are thickened & matted, valves are thickened & covered especially near the free edges with yellow vegetations. The endocardium is also thickened. The cusps of the tricuspid are thickened & have numerous small granulations thereon. The orifice admits tips of 3 gloved fingers.

Both lungs are congested, but the L. L. of the left lung contains a calcareous nodule.


Patient was quite healthy till 18 months ago, when he began to suffer from tightness in chest & cough. About this time he had an attack of haemoptysis brought on, half a pint. Sputum was blood-stained for 3 weeks afterwards. From this time patient began to lose in weight. Some time ago the voice became hoarse. On admission suffers from cough expectoration, some pain, night sweats & dyspnoea on exertion. Frequent attacks of haemoptysis have occurred since the first, before mentioned. Patient knows nothing of his family history.

Heart. 120 to 3. On inner edges of both mitral cusps there are numerous large pale vegetations seen.

Right Lung. Emphysematous in front generally. At apices of upper & lower lobes, there is a large cavity, (size of an orange) with white thickened fibroid walls, but with a lining of caseous material. Scattered throughout the lung, there are a few fibroid pigmented tubercles, some are fibrous. Caseous are most numerous in R L.

Left Lung. At apex of L L. there is a small cavity, (size of walnut) otherwise it contains small grey tubercles less numerous towards base. In L L. there are mitral tubercles, sparsely scattered throughout. The lobe is enlarged.
5. Norah McSheehy. 18 single.
   Adm. Nov. 28 93. Died March 13 94.
   (Notes of clinical history not found)

Heart. (Whole aorta is marked atheromatous.)
Weighs 11 oz. Mitral orifice admits tip of the thumb +
cushion of great thickness. Aortic cushion being ½ inch thick. The
orifice is constricted, chordae tendineae are thickened +
matted at the extremities.

Right Lung. Numerous tubercles over whole anterior
surface were observed. There is a small cavity at apex of L. L.
filled with caseous material. 4 numerous military tubercles
were found elsewhere throughout the lobe. In R. L. there was
not a tubercle seen, except on the pleura. About its centre was a
patch of broncho pneumonitis. L. L. There were one or two military
tubercles on its upper part.

Left Lung was engorged. Emphysematous on the
surface, base was edematous + no tubercles were seen.
   Adm. Feb. 12, 94. Died April 22, 94.

   Patient had good health till six years ago when began to suffer from cough and expectoration; about this time had an attack of haemoptysis, followed soon afterwards by dyspnoea and pain over chest. Was inpatient in Brompton 14 weeks in ’92, 15 weeks in ’93. Has worked since but has had several attacks of haemoptysis. Last October had bronchitis which lasted for three weeks. Cough got more troublesome. Had much night-sweating. On admission patient complained of cough, some pain, dyspnoea, but no expectoration.

   Family history. Father died heart disease at 65, mother died at 75, sister died at 75.

   Heart. S’/s op. Normal in right side. On left posterior auricular wall, immediately above junction of the anterior aortic cusp, in the initial valve, there was a large mass of discoloured clot, firm, adherent, on the inside of which showed polished endocardium, with some small papillae.

   Right Lung. Pleura greatly thickened. V.l. excavated, contracted, cavity (size of tangerine orange) surrounded by dense fibroid tissue, without an appearance of tubercle. L.v. was a large cavity at apex, surrounded by dense fibroid tissue; a small similar cavity at base.

   Left Lung. Bulky, anteriorly emphysematous. V.l. contains a small smooth walled cavity; anteriorly is filled with pigmented nodules. Anteriorly is fibroid. Remainder of lobe is free of disease. L.v. near the surface, anteriorly consolidated with masses of grey, caseous tubercle, lower 2/3 of which contained a number of tubercles here and there.
J. Arthur Whitehouse 42) Blacksmith

Adm. Apr 20 94 Died May 20 94

No illness previous to October 91, when patient caught cold, followed by cough & expectoration, occasional pain in right side, soon afterwards accompanied by dyspnoea & loss of flesh. These conditions prevailed more or less until June 18, 92 when patient had an attack of haemoptysis (8 oz).

Heart: 9 oz. On cuspal surface of the aortic cusp of the mitral valve, there is a row of large translucent, sessile vegetations at the free edges.

Right Lung: U.L. There is a cavity at the posterior part of the apex, surrounding which, there is densely fibroid tissue & pigmented. In the anterior part, there are one or two small cystic cavities containing pus, & the lobe is emphysematous on the surface. M.L. & L.L. are engorged, & contain many miliary tubercles.

Left Lung: U.L. is almost entirely excavated & the cavity walls are thin, fibroid & pigmented. L.L. At apex are several cystic cavities surrounded by a thin layer of fibroid lung, otherwise it is emphysematous containing pigmented fibroid tubercles & one or two small pus containing cysts.
George Taylor aged 59 married.

Adm. May 2, 1944. Died June 16, 1944.

Patient had an attack of influenza two years ago. Present illness began in Jan' 53, when patient caught cold, with cough & expectoration. Following it, which gradually became more troublesome, in the summer of that year, commenced to lose weight. One month ago, voice became husky. A week ago, gave up work on account of great dyspnoea & weakness. At this time much night sweats supervened.


Heart. 8½ yrs. The aortic cusps of the mitral valve was thickened near its free edges. The chordae tendinææææææææ were much thickened.

Right Lung. U. L. There was an cæsated cavity (size of walnut) at apex anteriorly, otherwise anteriorly, lobe contained grey racemose tubercles with yellow spots of caseation except at the base where it was emphysematous. Tubercles were fibroid. Posteriorly, it was fibroid. M. L. was emphysematous contained scattered grey tubercles. L. L. at diaphragm was thick with some small cavities, otherwise consolidated by dense grey tubercles, excepting at base which is engorged racemose tubercles are stronger.

Left Lung. U. L. At apex contains a cavity (size of tangerine orange) otherwise fibroid. Racemose tubercular masses in places. L. L. Upper half dense grey, lower half containing patches of grey racemose tubercles.
Robert Bakes, age 21, single, left. Boy.

Adm. May 29, 94. Died June 16, 94.

Patient never has had good health, but has suffered from winter cough, getting better in summer, but being more troublesome during last 12 months. Nine months ago had an attack of rheumatic fever, six months ago voice became husky, had pain on swallowing. Two months ago had swelling of feet. (Nothing with heart before rheumatism) Getting thinner lately, might sweating but not profuse. Has had three attacks of hemoptysis. Last attack three months ago.

Family history. Father alive well, mother died of heart disease, brothers all died of it.

Heart. 900, with pericardium. Both cusps of mitral valve are the seat of old endocarditis. There is much shortening, thickening of the chordae tendineae, at the free edges of the aortic cusp, there are a few tiny fibrinous vegetations.

Right lung. At apex there are recent tubercular nodules, surrounded by sharply defined pneumonia area. M.L. and L.L. are congested but free from tubercle.

Left lung. In U.L. there are several small cavities at apex (posteriorly, size of walnut) surrounded by dense, fibroid tissue + a few fibroid nodules throughout. In L.L. At apex there are a few fibroid tubercular patches, containing cysts. Below this is a cavity containing pus. At base is in a state of caseating bronchi. Pneumonia.
20. Emily Newman, aged 30, widow, few years
Adm Aug. 1st 94 Died Nov. 3rd 94.
Patient has suffered from cough, expectoration off and on for last 5 years, becoming worse since August 93, followed by weakness. Had rheumatic fever 1 year ago, again 6 months ago. Had influenza 3½ months ago, since which has lost in weight. Palpitation, dyspnoea followed attack of rheumatic fever, accompanied by oedema of lower limbs, but more especially of the left. Readmission, symptoms were cough, expectoration, pain in front of chest, dyspnoea, and night sweats.


Heart: F. tr. Both cusps of the mitral valve were greatly thickened, as well as all the chordae tendineae, which were matted together. On the auricular aspect of both cusps there is a group of papillomatous vegetations, varying in size to that of a small pea (similar vegetations were observed on the auricular surface of the tricuspid valves).

Right Lung: U. S. is deeply pigmented, fibroid, riddled with cavities, largest cavity being at the anteriormost of apex. Near the base there are many cavitating tubercular masses in the fibroid tissue. M. L. consolidated, contains here three nodules, some cavitating, some breaking down. L. L. deeply fibroid, containing small yellow nodules, but at apex cavities, surrounded by fibroid tissue.

Left Lung: U. S. contain posteriorly some irregular cavities, surrounded by fibroid tissue, in which many cavitating nodules, otherwise like emphysematos.
L. L. Fibroid nodule at apex, otherwise emphysematos.
Emily White aged 17 single servant.

Patient has always had good health. Cough came on after pregnancy in Sept. 91. accompanied with pain on either side, copious expectoration. Three months ago, began to notice herself getting thinner & to suffer from dysphoria.

Family history: Father & mother alive & well. Brothers & all alive & well, sisters 1 alive & well.

Heart: 9 yrs. Palpable all healthy except mitral, which had some patches of firm granulations on each cusp, being apparently more recent on the aortic cusp.

Right lung: v.t contains caseating consolidated areas, here & there breaking down into cavities posteriorly, while anteriorly the lung was emphysematosus. M.t. contains a few patches of caseous tubercle anteriorly & a small caseous nodule posteriorly. L.t. contained a few scattered groups of caseating tubercle, otherwise it was congested.

Left lung: v.t. Almost totally excavated by large irregular cavities with caseous walls. M.t. was simply a mass of caseous tubercle, honeycombed by numerous large & soft walled cavities.
22. Charles Barnes 16 single no occupation.

(Nov. 20 q2. Examination was made of tubercle bacilli *found to be numerous in sputum.* Patient was quite well until 2 years ago when he had an attack of influenza, which was followed by cough, expectoration & soon afterwards by dysphonia. These conditions have prevailed since, together with anaemia & also emaciation, which were noticed by the patient last November, in which month also he had 12 attacks of haemoptysis. (4 prints altogether). He had had blood-stained sputum, either before or after these attacks.

Family history: Father died at 50 q4, mother died at 40 q4. Brother died at 17 q4, sister at 12 q4. Died at 7 q4. Mitral valves show a row of firm pale granulations, large on the aortic, but more numerous on the other cusp.

Right lung: L. L. contains nascent masses clusters forming areas of partial consolidation, similar clusters were present in upper parts of L. R. elsewhere in these lobes they ran in lines, M. L. was emphysematous. L. R. was much congested.

Left lung: contained a large old smooth walled cavity, surrounded by fibroid tissue. The bronchi are dilated. Here & there throughout there was a small cavity. L. L. contained a small portion of respiring lung tissue at base, otherwise it was fibroid or excavated.
Emily Bence. 38 married. charwoman.


Nailiness previous to a year ago, when she caught cold, accompanied by cough, but soon got well. 5½ months ago, patient again began to suffer from cough, swelling of the feet, face, headache, pain in the epigastrium, loss of appetite, dyspnoea, becoming rapidly thinner, and with these symptoms she was admitted. Patient knows nothing of her family history, but her husband suffers from y.

Heart. 15.5 oz. Both segments of the mitral valve were much thickened. with rough, irregular edges, covered by numerous tough, small, fibrinous vegetations on the annular surface. A few small calcareous nodules were seen beneath the endocardium. Valve measured 3½ inches, when spread out, one of the chordae tendineae, was much thickened by fibro-calcareous nodules.

Both lungs were edematous, tough. At apex of the left, there was a fibrous area, which on section stretched into the lung for a short distance, was a limited cured tubercular lesion.
Sophia Allen 36, married.

Adm. Mar 29, 91  Died Apr 15, 91

Patient had whooping cough, scarlet fever, measles as a child. Seven years ago had an attack of haemoptysis (pink) occasionally since. Last time January 91 (’92). She has suffered from cough and expectoration for last seven years, but since pregnancy 14 months ago, her symptoms have been exaggerated. For last six months, emaciation, night sweats, pain edema have been marked.

Family history. Father died 48 years. Brothers 2, one delicate, sister 5, all delicate, children 5 died?

Heart. 11 yrs. Mitral valves are much thickened & puckered. On the left posterior segment, there is a cleft of recent vegetation.

Right Lung. U. L. Near the posterior surface, there is a cavity, size of walnut; anteriorly, there are several smaller cavities. M. L. contains some caseous nodules & much fibroid tissue. L. L. is much congested; there is considerable emphysema

Left Lung. There are cavities at apex, throughout the lobe there are caseous nodules, some pin head size tubercles, considerable fibrosis. L. L. is emphysematous & congested.
Ada Worthy, age 20, single.

Adm. Feb. 20 91  Died May 18 91

Patient gave no history of any illness previous Nov. 90 when she suffered for a month with pain in left side, cough, expectoration, soon afterwards being followed by night sweats.

On Feb. 23 91, examination for tubercle bacilli in sputum showed them to be numerous.


Heart. Normal size. Valves were normal, except the mitral, which had recent vegetations of small size on its auricular surface.

Right Lung. In U. L. there were many small cavities with tubercular walls, surrounded by lung tissues, which was infiltrated with soft caseous tubercle. M. L. + L. L. were in a state of grey hepatization, but without tubercle.

Left Lung. U. L. was almost entirely occupied by a large irregular cavity, having caseous walls & containing purulent mucus. L. L. contained 3 large cavities with softened walls, with blood vessels causing through them, one here & there being dilated, otherwise lobe contained many caseous tubercular masses.


  There is no history of any illness previous to 12 months ago when cough, expectoration commenced insidiously. Soon afterwards followed by night sweating, dysphonia, emaciation.

  Family history. Father died diabetes, mother died early.

  Heart. 3 deeps. Mitral valve showed slight endsocarditis on the auricular surface of the flaps near their free edges. The flaps together with the chordae tendineae were thickened.

  Right Lung. V.L. was occupied by an irregular cavity. M.L. & L.L. were congested & crammed with recent tubercles.

  Left Lung. V.L. was occupied by a large irregular cavity with soft caseous walls in whose substance were numerous thrombosed & thickened vessels. L.L. was greatly congested & studded with masses of recent grey tubercle.

Adm. Sep. 18, 91 Died Sep. 29, 91

Six years ago patient suffered from some disease of chest. Present illness began 3 months ago with cough, expectoration at night, and for that time has suffered from night sweating also, accompanied with loss of weight. These conditions were soon afterwards followed by dyspnoea.

Family history. Father died at 67. 2 brothers died in infancy, '1 sister died in infancy'.

Heart. 160 gms. Mitrval valve showed some recent endocarditis on the auralicus surface of the anterior leaf.

Right Lung. U. L. contained an irregular cavity, occupying nearly the whole of the posterior border. A similar cavity occupied the upper third of L. L. posteriorly, otherwise lobes were packed with recent tubercles.

Left Lung. In U. L. there was a small cavity at the extreme apex, having thick walls. In rest of the lobe there was much recent tubercle. L. L. posteriorly contained recent tubercle & the base was congested.

Adm. Sep 23 91 Died Oct 19 91.

Had measles, whooping cough as a child. Rheumatism
6 years ago was ill for 6 months. Got fairly well until
last Xmas when had pleurisy in left side, has never been
well since, suffering from cough, expectoration, pain in the
epigastrium under the left breast, night sweats, vomiting.
Emaciation have followed these symptoms. Dyspnoea has been a
symptom for the last month.

Family history. Father died paralysis age 63, mother
alive age 65, but suffers bronchitis. Brother died?

Heart. Enlarged generally. Tricuspid orifice
admits the tip of 2 fingers, but mitral barely admits tips of 2.
Mitral valve showed much shrinking, thickening of its flaps, 
or the free edges, some pale firm granulations of recent
endo carditis were found on the auricular surface, being most
marked on the posterior cusp. The chordae tendinae were
thickened & tough, the musculi papillares attached to the
posterior cusp were short & fibrous.

Right Lung. There were a few searles in the U.L. but
none in L.L. This lung was in a similar but less advanced condition
than that of the left lung.

Left Lung. U.L. presented a very large irregular
cavity with thin fibroid walls. In L.L. there was a similar cavity
at its posteriour upper harts. Many soft yellow tubercles along the
posterior border, scattered throughout the whole lung were nodules
of fibroid caseous tubercle.

Examination of opium showed numerous tubercle bacilli to be present on Nov. 5. 91. Patient has never been strong, but the symptoms have been more severe during last 6 years. Present attack commenced 14 months ago by an attack of haemoptysis (1/2 pint) & another attack 6 months ago (2yos) brought on by expectoration soon afterward being accompanied by dyspnoea, night sweats & loss of weight.

Family history. Father died of act 85, mother died of act 35 (5 years after husband). 1 brother, 1 sister both alive & well.

Heart. Hugs. On mitral valve there were two small groups of pale granulations on the auricular surface of the aortic cusp.

Right Lung. In U. R. there were two large cavities having fibroid walls, the lower being connected with a similar cavity in the upper posterior part of U. R. M. contained caseous tuberculous nodules & a small soft walled cavity. U. L. contained 2 cavities & numerous masses of softening tubercle.

Left Lung contained small cavities in U. L. & recent softening tubercles. Small cavities were also found in upper part of U. L., bone of which was congested.
Maria Newett, aged 26, single, servant.


For last 10 years, patient has had a persistent cough. The sputum has been occasionally streaked with blood for last year. She had an attack of haemoptysis (40 yrs) 5 years ago, 2 years ago another attack (40 yrs), frequently recurring but in small quantities. In 1890, had an attack of bronchitis, was in bed for a month, suffering from pain between the shoulders and epigastrium.

From this time patient suffered from night sweats, lost in weight.

Family history. Father died (aged 60 yrs). Some paternal uncle, aunt phthisical. Mother died typhoid fever (aged 50 yrs).

Heart. 10 yrs. On auricular surface of both flaps of the mitral valve there were numerous round vegetations of old formation.

Right Lung. In V.R. there was a large soft walled cavity, covered anteriorly by the pleura only. Another cavity lay below it. In I.R. there was a large irregular cavity, throughout the rest of the lung there was much fibrosis. Here there were fibroid tubercles a caseous nodule.

Left Lung. In V.L. posteriorly there was a smooth walled cavity, surrounded by fibrosis, otherwise the lobe contained caseous, fibroid tubercles. At apex of L.L. there was a small cavity, a base of lobe was congested.
Aortic cases.

1. Thomas Smith, age 45, married, caretaker.

Five months ago, patient had inflammation of lung and bronchitis.
Was ill for 1 month in bed. Has always had dyspnnea and cough since.
Much worse during last fortnight.

Family history. Father's mother died.

Heart. 4 oz. fluid in pericardium. There was a fusiform
aneurysm of the ascending aorta, the aortic valves were atresomatous
thickened, the aorta was dilated.

Both lungs were tough and leathery. Right pleural
cavity contained 70 oz. of dark red colored serum, left pleural
cavity contained 8 oz. In U.L. of left lung, there were several
fibroid pigmented tuberculous nodules, some similar nodules
were found in the upper part of U.L.

Adm. May 24, 94. Died May 25, 94.

Patient had measles and whooping cough as a child. These illnesses began 5 months ago with cough, expectoration occasionally. Pain in chest. 3 months ago had an attack of haemoptysis (3 times) since which has suffered from dyspnoea a loss of flesh. His symptoms have become more marked.

Family history. Father died 87 yrs, mother died 52 yrs, brother died at 21 yrs, 2 sisters died 7 yrs.

Heart 99 pts. The aortic valves consist only of two cusps of equal size, each is thickened, the anterior apparently is formed by the coalescence of the anterior and right posterior cusps. Between the flaps near their point of juncture, are two masses of vegetation, that on the posterior surface being a large as a pea, apparently ulcerated in the centre, otherwise endocardium is somewhat roughened.

Right Lung U.L. Muddled with cavities, largest being posteriorly at the apex. Walls are ragged, they contain caseous material. The anterior basal portion are densely consolidated with pneumonic caseous patches. N.L. contain many cavities are otherwise consolidated with cheesy yellow tubercles. L.L. contain many cavities, pneumonic cheesy patches. Anteriorly the lobe was comparatively free, while posteriorly it was closely packed with small caseous nodules to the extreme base.

Left Lung. In U.L. a upper half of L.L. there were several cavities, otherwise the lung was consolidated by pneumonic tubercular caseous masses, excepting at the extreme base, which were engorged, contained one or two scattered caseous masses.


There is no history of rheumatism or any chest disease in the family. Patient suffered from pleurisy on the right side, 21 years ago. Present illness commenced 15 months ago with cough and expectoration, soon afterwards being followed by night sweating, loss in weight, 6 weeks ago, began to suffer from dyspnoea and laryngitis.

Heart: 14 oz. Thoracic cage was much thickened and contracted, causing stenosis and incompetence.

Right Lung: upper. There was a large thin-walled cavity at the apex, several smaller ones anteriorly. M. L. was emphysematous, contained scattered caseous nodules. L. L. contained a smooth-walled cavity at the apex, several smaller ones at the base. Remainder of the lobe was shaggy and contained scattered tubercular nodules.

Left Lung: upper. At apex in front, there was a patch of catarhal pneumonia. posteriorly there were cavities (size of walnut) toward the base anteriorly, there was much contracted fibrous tissue, containing small contracted cavities, causing puckering on the surface. L. L. At its apex, there were cavities. Sternal border of lobe was emphysematous.
Frederick Gale, act ss. clerk.


(Clinical note not found).

Heat, 110°. There was a localized thickening of the contiguous margins of the right anterior mitral crest of the aortic valves, with a few small firm granulations in the angle between the two segments. Right anterior crest was more especially thickened.

Right Lung. V. L. especially posteriorly, woodlessly stuffed with caseous masses, many of which were breaking down. Anteriorly, they were rather more in type. M. T. was more uniformly dotted throughout. L. L. At apex contained large cavities, which were encapsulated. (Apparently, oldest part of the disease) otherwise lobe contained many caseous nodules.

Left Lung. V. L. posteriorly, there was a thin walled encapsulated cavity; another, smaller one at the lower border, otherwise it contained caseous tubules, here and there, recent cavities. L. L. In front contained many small caseous caseous hatchets; some nodules of tubercle.
5. Edward Colegrave, aged 45, married, clerk.

Adm. Jan. 89. Died March 89.

In 1860 patient had rheumatic fever. Again in 1872.

He had syphilis in 1894. Present attack began last July, with cough, expectoration, loss of appetite, & about the same time he noticed a lump on the front of the chest, at the junction of the rib with the sternum. Patient gave up work last August. In March of this year suffered from severe diarrhoea.

(Examination of sputum on Jan. 16th 89, showed no tubercle bacilli to be seen.)

Family history. Father alive well, mother alive but suffers from rheumatism. Had 4 brothers, 3 of whom died 4, 5 sisters 1 of whom died 1, a one delicate.

Heart 12 yrs. Aortic valves were incompetent, puckered & retracted, mutually adherent & considerably thickened.

Right Lung. At apex there were numerous cavities (oldest area of disease). Remainder of the L.L. was solid, with coalescing caseous masses. Pneumonic patches containing caseous foci. L.L. + M.L. were less crowded with these foci. were edematous at their bases.

Left Lung. 3 inches below the apex of L.L. there were nodules of tubercle, less numerous throughout the lung otherwise, there was much oedema.
   Patient had chronic rheumatism for 20 years, off & on.
   With his first attack, he was in bed for 5 months, symptoms at
   their commencement being acute. For last 3 years patient has
   suffered from dyspnoea, becoming more severe during
   the past year. (There is atheroma of the arteries)
   Heart: 23 yrs. Aortic valves were markedly incompetent.
   Much prepaeda on the aorta, mitral cusp being fenestrated. There
   was fibroid thickening of the endocardium of the left ventricle
   over the septum. The endocardium of the aorta roughened in
   the neighborhood of the sinus of the vasa saliva, there is an
   aneurysm at the left sinus of vasa saliva
   extending through the septum ventricolarum, downward & forward
   a opening by a small ragged opening into the left ventricle was found.
   The lungs were extremely spongy, emphysemaeous
   anteriorly, scattered throughout both small calcareous pigmented
   patches were embedded. At the anterior border of the right
   there was fruichoning of the surface, which on section showed a
   pigmented fibroid patch.
George Accon, aged 58. Married. Servant.


Fourteen years ago was an in-patient of Westminster Hospital, suffering from double pleurisy with effusion (not tapped) all for 6 weeks, unable to work for 2 years afterwards on account of weakness after which time got fairly well. Seven years ago took influenza, being followed by double pleurisy, but this time accompanied by swelling of feet & legs. Since this last illness, patient has always suffered from cough, expectoration, shortness of breath, general weakness. 14 years ago was an in-patient in Brompton, being admitted for cough, dyspnoea, etc. On admission patient suffered from cough, especially at night, expectoration, retching, pain in right side, night sweating, marked dyspnoea, general weakness some haemoptysis.

Family history. Father died aged 75, rheumatic fever, mother died aged 54, lung disease. 3 brothers, 2 killed by accident, 1 alive & well. No sisters.

Heart. 11 oz. Two anterior aortic valves are fused together, are only united to the aortic wall by a single central band. The central part of the semilunar for half an inch is greatly thickened, of cartilaginous hardness, puckered, presented a free edge 1/8 inch thick. The posterior aortic root is also thickened, puckered on its ventricular aspect. Deep in the aortic pockets, extending up on the aortic surface of the valve, there is a group of small calcareous papules.
George A. E. (continued).

Right Lung. U. L. is extremely contracted, practically consists of two globular cavities (size of small walnut), with smooth inner surface, surrounded by dense fibroid tissue which is yellowish white in color. Remainder of lung is free from tubercle, excepting for one large cavitaceous mass, containing caseous matter (size of filbert) situated at the anterior base of U. L. otherwise it is engorged & congested.

Left Lung. U. L. is not so much contracted as on the right side. At apex of U. L. there is a cavity (size of an orange) & 3 or 4 small cavities posteriorly, each being surrounded by pigmented fibroid tissue, otherwise lobe is oedematous & free from tubercle. L. L. at apex showed some small cavities, surrounded by pigmented fibroid tissue & in their neighbourhood, some small fibro-caseous nodules were observed, otherwise lobe was congested & oedematous.
S: George Jablutt, aged 52. Inspector on S. E. Ry.


(Clinical notes not found.)

Heart. 3 eggs. The only remains of any aortic valvular structure that were seen, were at the junction of the right anterior posterior cusps. The remainder was lost in a enormous fungating growth, which is entirely calcareous. The whole anterior part of the valvular structure consists of a large fungating irregular mass projecting upwards into the aorta, partly broken down on its ventricular surface, reducing the actual orifice of the valve to an extremely narrow opening. The inch across, oval in shape. The posterior part of the valve stands up as an irregular calcareous wall, forming by its junction with the aorta a pocket, an inch or more in depth. The coronary orifices are not involved.

Right Lung. V. L. At its apex there was a large calcified (size of tangerine orange) with smooth fibrous walls. In its neighbourhood were a few small pigmented fibroid tubercles. M. L. contained a large small fibroid tubercle. L. L. was engorged and edematous.

Left Lung. In v. L. there were some fibro-caseous nodules scattered throughout, otherwise lung was edematous & engorged.
q. Mark Nash, aged 44, married, carpenter.

Adm. May 23, 94. Died June 21, 94.

Patient had 7 years foreign service in Army. Suffered from fever in Bermuda, remained well for 3 months. Present illness began with cough 5 years ago, which has always been troublesome since, and was then accompanied by an attack of haemoptysis (6 oz) occasionally bloodstained sputum since. Patient has been able to do light work until 2 weeks ago. For some time past, there has been considerable pain, night sweating and loss of weight, dyspnoea becoming more troublesome.

On May 30, 94 examination of sputum showed numerous tubercle bacilli. (No history of gout, syphilis + alcohol.)

Family history. Father died of accident. Mother died 85 semi-cripple.

Brothers 1 sister, both alive + well.

Heart. 16 oz. Aortic orifice incompetent. Valves are much thickened at their free edges, above the two anterior cusps there are two deep, pockets of atheromatous, ulcerated vessel, extending upwards for 1/2 inch, the aorta isolated, immediately above the valves.

Right Lung. At apex of V. R. there are 2 small cavities, one anteriorly, one posteriorly, surrounded by dense fibroid pigmented tissue, otherwise racemose nodules of grey tubercle, numerous small cheesy pneumatic patches. At extreme upper base of R. L. there are discrete nodules.

Left Lung. Posterior part of V. L. contained a large cavity, surrounded by deeply pigmented tissue. Remainder is packed with grey cheesy tubercular nodules, with here there a small cavity. L. L. has a similar appearance to that in right lung.

Adm. Oct. 5 94  Died Oct. 26 94.

Patient's heart was said to be affected 20 years ago, but
till fairly well till 5 years ago, when he began to suffer with
palpitation & faintness. About 3 years ago, these symptoms
were accompanied by spasmodic pains in chest, extending
down left arm to the hand. At first, only lasting for a few
seconds & occurring about once a week, but now lasting some
times for an hour. These attacks came on after a little over-
exertion. Last attack being on Feb. 29 94. Patient has suffered
from cough & expectoration.

Family history. Father died of gangrene of leg, mother died
from hemiplegia. 2 brothers alive as well, 2 died; doubtless 2 others died.

Heart. 19 0 to 20 0. Right & left posterior cusps only are functional.
Anterior is attached to wall of aorta, by its semi-lunar edge, only one
small aperture being left, through which blood could enter into the
sac like pocket, behind the anterior valve, from which the true
anterior coronary orifice opens. The orifice of the posterior coronary
artery is obliterated, by constrictions, calcaneous degeneration of the
vesSEL wall of the aorta.

Lungs. Engorged. At both apices there are several
small firm nodules, surrounded by pigmentation, none as large
than hemp seeds, several are calcaceous in the centre.
11. John Whataley, act 41, married, bookseller.


Patient had bronchitis 16 years ago, but got well.
was in good health till last Xmas, since when has suffered
from cough, night sweats, loss of weight, increasing weakness, pain
in right side, dyspnoea and expectorations. Examination of sputum
on Oct. 29. 92 showed no tubercle bacilli to be present, but on
Jan. 5. 93, they were found to be numerous. He had had slight
attacks of haemoptysis on occasions.

Family history: Father and mother alive well. Brother died
from heart disease 3 years ago. 3 sisters died in infancy. 2 children healthy.

Heart: Aortic valves were thickened, atheromatous, and
incompetent.

Right Lung. X-ray showed 2 large cavities, the upper being the
larger, both were surrounded by fibrous tissue. M.L. contained numerous
small superficial cavities immediately under the pleura, otherwise
being solid from pneumonia, partly infiltrated, partly in the gray stages.
It contained much recent tubercle. L.L. contained a cavity at apex, was
crowded with tubercles.

Left Lung. contained a deposit of old tubercle at apex -
recent infiltration throughout with minute tubercle. At apex of L.L.
there were some deposits of tubercle, less numerous otherwise, L.L.
was congested & oedematous.
12. Harry Stubbs, age 50, married, stableman.


Patient had rheumatic fever 20 years ago. Had an attack of haemoptysis (coughing of blood) on June 28, 1887. Was inpatient of this hospital from April 6, 91 to May 10, 91, suffering from palpitation, pain shooting down both arms. For last month pain has been much worse, especially after exertion.

Heart 280 g., enlarged. The cusps of the aortic valve were much thickened over their whole extent, especially on their free edges. There were wart-like vegetations along the edge of the posterior cusp. The right coronary orifice was closed, the aorta was much dilated, immediately above the valves, it was very atheromatous.

Right Lung. On surface of L. I. there were two scars, corresponding to old cured tubercular disease, extending deeply into the substance of the lung. About an inch lower there was a mass larger than a cherry, with a very fine caseous core, fibrous cortex. Near this was a calcareous nodule. A corresponding nodule of the two scars, there was a patch of fibrous tubercle.

Left Lung. At apex, there was a mass of arrested tubercular disease, partly caseous, partly fibroid, consisting of several separate nodules. L. I. was extremely oedematous.
"Mixed bases."

   Patient had illness previous to 1880, when suddenly
   he was seized with pain in right side, accompanied
   with an attack of haemoptysis. Attacks of haemoptysis have
   been frequent since. Present illness began last Xmas,
   with cough and expectoration, since which patient began to
   notice himself getting emaciated. In Jan. 87, dyspnoea
   commenced to be troublesome.

   Family history. Father died paralysis, mother died?
   Heart: 14 oys. Small vegetations were observed in
   the aortic valves, similar vegetations were seen on the
   auricular surface of the mitral valve.

   Right Lung: v. l. There were cavities scattered
   throughout. The walls of two of the larger ones being thick
   indurated, cavities containing calcareous masses.
   Sheling otherwise was studded with small nodules, many
   of which coalesced.

   Left lung was emphysematous along the sternal
   border, especially marked at the l. Scattered throughout
   both lobes are tubercular nodules.
2. Lois Smith, a 35 single, dressmaker.
Adm. Dec. 17 PP  Died Apr. 8. 89.
Patient had acute rheumatism. aet. 19, inflammation of lungs
aet. 21, rheumatic fever aet. 26. ever since which she has suffered from her
heart. Recent illness began with some cough, pain in left side
expectoration, which was bloodstained, soon afterwards being
followed by dyspnea. Sometime considerable time past she has
lost in weight.

Family History. Father died 45, mother died 53, 2 brothers
(died 45, 1 sister alive well.

Heart 199:0, Aortic valves were incompetent. The
 cusps were thickened, somewhat adherent, retracted, nodulated
 + a few small firm granulations on their surfaces. Mitral
 orifice was contracted, admitting tip of one finger, valves
 were greatly thickened + adherent, causing a buttonhole
 appearance. The chordae tendineae + musculi papillares
 were much thickened. The tricuspid orifice admits tips of
 4 fingers, valves being rigid + thickened, + covered with
 a few small firm granulations.

Right Lung. 1½ inches below apex, there was a small
encapsulated caseo-calcareous nodule with some irregularly pigmented
fibrous strands, having nodular thickenings, running off from it
otherwise there were no tubercular lesions in the lungs.
3. Mary Hall, aet 21, single, laundry maid.
   Patient has always been delicate. Had measles aet 10, rheumatic fever, aet 17, followed by double pleurisy, two years ago was in patient at Brompton for heart disease. Last summer began to suffer from shortness of breath, most marked on exertion, accompanied with cough of profuse expectoration which was streaked with blood. She had rheumatic arthritis in hospital.

   Family history. Father alive & well, mother died 19, aet 41.
   Brothers: 1 delicate, 2 sisters alive & well.
   Heart. 170 p. Aortic valves incompetent, towart worst, a stenosed, cusps were much thickened, mutually adherent & having a few recent vegetations at their free edges. Mitral valves were enormously thickened, adhering to one another, giving the appearance of a conical funnel. The chordae tendines, muscular papillaries were adherent to one another at their ends. There were soft recent vegetations on the tricuspid valves at their free edges.

   Right Lung, was in a state of early fibrosis. Near apex of L.l. there were several small pucker & cavities with thick curdy puriform contents. Remainder of lobe was lean fibroid, partly collapsed & contained only a very few pigmented granules of tubercle, at its lower, sternum border, otherwise the lung was a brown y.

   Pedematares, studded with pigmented fibroid tuberculous granules in the caseous nodules (age of pea).

   Left Lung. Pedematares, congested having a few scattered pigmented tuberculous groups in it.
4. Fred McQuin, act 22, single, tailor.


Patient had good health till 15 months ago when he began to suffer from cough. In January last he had inflammation of lungs. In April, was seized with sudden pain on right side near middle of chest (right pneumothorax with purulent effusion), has never been well since. On admission was suffering from cough, dyspnoea, pain in the epigastrium. On Dec 21, 98, was seized with sudden dyspnoea, had another attack on Dec 28, this time being accompanied with cyanosis.

Family history. Father died pneumonia, mother alive but suffers from hemiplegia. 2 brothers both died pneumonia, sister 14, 2 died of pneumonia, 2 alive or swell.

Heart. 9 o/s. On border of both cusps of the mitral valve on the auricular surface were pale shining fibrous vegetations, also on the lower borders of the cusps of the aortic valves on their ventricular surface translucent vegetations were seen.

Right Lung. Completely collapsed & caseified, contained inside 1/2 size of outer border a cavity, surrounded by fibrous caseating walls. Lobe contained a few caseating nodules. M. L. & L. L. contain a few patches of caseating tubercles. At external border of M. L. there was a caseating cavity, which communicated with the pleural cavity by a large open, pleural layers being separated from one another by 75 o/s of thin pus & a quantity of air.
4. Fred McQuin. (continued)

Left Lung. U.P. was extremely fibrous. Posteriorly, in its upper part, there was a mass of fibrous tissue, containing small caseous-cretaeous nodules. Anteriorly, there were numerous small cavities, having caseating walls. At the base there was less connective tissue but numerous patches of grey caseous tubercles. L. L. At apex was similar tissue of U.L. But below this, there were patches of caseous tubercles, surrounded by broncho-pneumonia, otherwise the lobe was engorged & emphysematous.
5. Reginald Burrows aged 17, single, carpenter.

   Patient had measles as a child, after which had good health till 18 months ago, when present illness began insidiously, with cough, pain in right side, & expectoration. Shortly afterwards these symptoms were accompanied by dyspnoea.

   Family history. Father, alive & well; mother died in confinement; brothers - 1 sister, alive & well.

   Heart. T. a o. There were some small granulations on the mitral valve & also on the cusps of the aortic valve.

   Right Lung. U. L. was almost wholly occupied by a ragged cavity. The remainder of the lobe, including M. L., being packed with small caseous tubercles, here & there breaking down. L. L. was almost wholly converted into a large thin walled trabeculated cavity, the excised portion being filled with small yellow caseous tubercles.

   Left Lung. U. L. was closely infiltrated with small yellow tubercles, coalescing here & there, posteriorly at apex, there was a large thin walled cavity (size of an orange) filled with pus. Below it a smaller cavity. The apex was closely set with yellow tubercles, becoming less numerous towards the base, which was engorged.
6. Fred Young, age 34, married, gardener.

Adm. May 17, 97. Died Aug. 17, 97

Patient had haematuria 14 years ago, after which he did not feel well for 12 years. Two years ago he had an attack of haemoptysis. Present illness began 6 weeks ago with pain in the side, palpitation, swollen legs. For some time back has lost weight.

Family history. Father died 63, appendicitis. Mother died 42, 5 brothers alive & well, 3 sisters, 2 alive & well, 1 died.

Heart. 21 oz. Tricuspid orifice admits tips of 2 gloved fingers. Musculi papillares, musculi pectinati of left ventricle are thickened. Mitral valves thickened, & the chordae tendineae are thickened. On the aortic surface practically covering the whole of it are numerous vegetations, some of which being ½ inch in length. On the mitral surface are numerous vegetations, but smaller. The aortic valves are incompetent, all three cusps being covered on their ventricular surfaces with large vegetations. The anterior valve is involved, having attached to it a vegetation, ½ inch in length, directed upwards towards the aorta. The other two valves are less necrotic, central valve being perforated, near its attachment to the aorta. Covering the endocardium between the anterior right posterior aortic cusps are numerous small vegetations.

Right Lung is extremely oedematous.

Left Lung. Pleura is adherent & very thick at apex. At posterior part of base of L. L. there is a scar, puckered, in section shows a calcaceous plaque, otherwise lung is oedematous.
J. Carrie Davies, aged 19. single. domestic.


In June 1896, patient had 20 or attacks of quinsey, otherwise good health till 6 weeks ago, when she felt feverish after an attack of influenza, but continued her work, only felt languid, had dyspnoea.

Family history. Father, mother, 2 brothers, 2 sisters all alive well.

Heart. Mitral valves are sclerosed, chordae tendineae shortened & thickened. On auricular surface, especially on the posterior leaf green vegetations are seen. Left anterior posterior cusps of the aortic valve especially at their edges, are sclerosed, a covered anteriorly with enormous masses of greenish yellow vegetations, irregularly disposed, extending to the aortic surface of the anterior leaf of the aortic valve. The whole mass of vegetations measures 1/2 to 2 inches in breadth. Right anterior cusp is also sclerosed, having only one patch of similar vegetation traceable to the abscission of the opposing mass.

Right Lung. At base of r. t. there is a patch having calcareous walls containing cheesy material, surrounded by a mass of emphysematous tissue, otherwise the lungs were oedematous.
Jessie Halfenny, aged 42, married.


Patient had rheumatic fever aged 10, was ill for some months, but has always had some palpitation & difficulty in breathing since. She had an attack of haemoptysis aged 13. Aged 14, she had smallpox & was ill 2 months, being a month in hospital. Aged 17, she had diphtheria, & has always had difficulty in swallowing since. Aged 21, she married, & within a year had a premature child. During her confinement she caught cold & began to suffer from cough & expectoration, which on one occasion was accompanied by a severe attack of haemoptysis. During following year, she had a second child, which lived to the age of 18, at which age it died of p. Aged 24, she had a third child which now suffers from spinal disease.

Seven years ago, heart disease showed severe symptoms & congestion of the lungs supervened. Since then patient has been fairly well until July 99, when the heart symptoms again became troublesome. This time, showing symptoms of impaired digestion, namely, bad appetite, frequent vomiting, followed by emaciation. Two months ago, cough & expectoration increased, accompanied by pains in the chest marked dyspnoea, these being the symptoms on admission.

Family history: Father alive & well, mother died aged 75. 2 brothers both died of pneumonia. 3 sisters alive & well.

(over.)
8. Jessie Halffhenny (continued.)

Heart. 14 oz. Whole endocardium is thickened opaquely, covered with a fibrinous deposit on the posterior wall for a short distance above the mitral valve. The mitral orifice allows of free regurgitation of fluid, the edges of the mitral valves being markedly thickened & puckered, & the chordae tendineae are much thickened at their insertions, & in many places are smotted together, especially those attached to the aortic cusp. On the aortic aspect there is a slight fibrinous deposit. The aortic orifice allows of free regurgitation, valves being markedly thickened & puckered, especially the left anteriors. There are 4 pulmonary valves, but the pulmonary stenotic valves are otherwise healthy, there is much atheroma of the whole arterial system.

Right Lung. is much engorged, scattered throughout in all the lobes, but not in great abundance are small patches of grey pigmented tubercle. Near apex of L. L. there is a small cavity, surrounded by pigmented fibrous tissue, containing caseous material.

Left Lung. in an state of very advanced caseating pneumonia. In L. L. at apex, there is a cavity having caseating walls. In centre of this lobe, there is a large area of broncho-pneumonia, caseating in extensive blocks. The extreme basal portion is deeply pigmented & contains smaller caseating patches of tubercular broncho-pneumonia. L. L. especially posterior, contains scattered patches of caseating broncho-pneumonia. In its centre there is a caseous walled cavity (size of walnut)


Patient had rheumatic fever, 6 years ago, again 4 years ago. Four months ago had scarlet fever, followed by cough, expectoration, dyspnoea. He began to suffer from pain in left side, 1 month ago. At this time had an attack of haemoptysis (severe), has been wasting for some time back. On Oct. 8, 92, examination of sputum showed tubercular bacilli to be fairly numerous.

Family history. Father is mother, alive and well.

Mother's father, sister died 4, 2 sisters, 1 alive, 1 well, 1 died from whooping cough. No family history of hemoptysis.

Heart. 180s. On the auricular surface of the mitral valves, there is a row of fine granulations, most numerous on the aortic flap, the orifice admitting tips of 4 fingers. The aortic valves, especially the left coronary leaf, are covered with small granulations on the ventricular aspect. The right posterior leaf was perforated near the free border by a large opening.

Right Lung. U. L. contains much recent tubercle, especially posteriorly. At the base there is a small round cavity, anteriorly it is emphysematous, the tubercular deposit is sharper. M. L. contains a similar deposit of tubercle, anteriorly being emphysematous. The tubercles sharper. L. L. contained a small smooth walled cavity at the posterior apex. Throughout the lobe there was a deposit of...
g. William Breed, (continued)
recent military tubercle.

Left Lung. U. L. contains two moderate sized cavities anteriorly, a small portion of the lobe is consolidated, of a slate color, having a few tubercles scattered throughout. L. L. contains two small cavities near the apex, smaller being posterior. Near the base there is an airless wedge-shaped area containing small cavernous nodules.
Emma Clark, age 22, single. Telegraphist.

Adm. Apr. 10. 93  Died June 24. 93.

For last two winters she has complained of cough, which gets better in the summer. Last Nov. began to spit blood, recurring in Dec., Jan., and March. An admission complained of weakness, pain on both sides of the upper parts of the chest.

Family history. Father died at 70, mother died during Act 33, from fever. No family history of either rheumatism or gout. Mother's sister died at 44 after haemoptysis.

Heart. 90 yrs. The curtains of the aortic valves, along their lines of contact are dotted with a fringe of small granulations. Mitral orifice was narrowed. The chordae tendineae thickened. The curtains on their curricular aspect fringed with larger granulations than on the aortic valve, the cusps are also thickened.

Right Lung. The whole posterior part of V. L. is occupied by a pus containing cavity, freely communicating with a large bronchus. The middle part of V. L. is collapsed, filled with pus containing cavities, while the lower anterior border is occupied by a separate pus containing cavity (size of tangerine orange). It is infiltrated with miliary tubercle, containing many small cavities. It contains numerous caseating tubercles, many cavities.

Left Lung. V. L. similar to the right, excepting that some cavities were larger. In some places the tubercles had run together. It is thickly infiltrated with caseating tubercles. Here and there patches of collapsed lung tissue.
Louisa Williams, aged 32, single.


Patient had rheumatic fever, aged 14, which was followed by dyspnoea and swelling of feet. Since then he has suffered from subacute attacks. 3 years ago was in hospital suffering from heart disease, pulmonary congestion. Got fairly well until 4 weeks ago when he suffered from increasing swelling of feet, dyspnoea. On admission, beside these symptoms, there was swelling of abdomen, cough & expectoration, accompanied with vomiting, & sleeplessness.

Family history. Father & mother, alive & well.

Heart. Mitral orifice admits tips of two fingers, valves being thickened & shrunken. The chordae tendineae are thickened & shortened. The tricuspid valves are thickened & shrunken. The aortic valves are incompetent, showing old endocarditic changes & also recent changes along the larvulae.

Right Lung. is congested, somewhat emphysematous. Near its base is an infarct, in whose centre is a small cavity, having yellowish fibrous walls.

Left Lung. is collapsed - the pulmonary vessels in its substance are atheromatous.

Patient had measles when a child, influenza 2 years ago, bronchitis 12 months ago, present illness beginning 5 weeks ago with an attack of haemoptysis, which was followed by cough, expectoration, pain & dyspnoea.

Family history. Father, mother & brother alive & well. Father's father died.

Heart 12 ops. Mural valve admits tips of 3 fingers, & cusps show small vegetations on the auricular surface near the free margins. Similar recent vegetations are seen at the junction of the right posterior & anterior cusps of the aortic valves.

Right Lung. V.L. contains a large irregular soft caseous walled cavity at apex, below it anteriorly a similar but smaller cavity. V.R. posteriorly near apex, there is a cavity. In the upper third anteriorly, there were many nodules of yellow tubercle, lobe being in a state of red hepatisation.

Left Lung. V.L. contains 4 small cavities, grouped together near the apex, having soft caseous walls, surrounding which are masses of recent yellow tubercle. V.R. shows in its lower third anteriorly grey hepatisation, otherwise lobe contains irregularly disposed nodules of recent yellow tubercle.
Michael McGuiness, age 32, single, laborer.


No illness previous to 12 months ago, when patient began to suffer from cough, accompanied with blood stained expectoration. Sometimes dark, sometimes bright red in color, also edema of legs. These symptoms soon became more marked & he suffered from dyspnoea, night sweats, loss of flesh & general weakness. There was also pain on both sides. One day, while pushing his way in a crowd, he felt something give way suddenly, & experienced great pain in left side, fainted, since which there has been much weakness & pain in that area.

Family history. Father died, aged 66, cancer of stomach; mother died, aged 39, doubtful; 1 brother died, aged 34. Sisters alive well.

Heart: 18 oz. The tricuspid orifice admits tip of 2 fingers, mitral three. The aortic valves are incompetent, & show extensive endocarditic changes. On right posterior cus of its ventricular surface, there is a large mass of firm vegetation, similar but less extensive are seen on the other cusps. Below the right posterior cusp are several small ulcerations leading to cavities in the valve substance, filled with disintegrated blood. The ventricular surface of the anterior leaf of the mitral valve is roughened from endocarditic change on its auricular surface an elevation (size of pea), which on section

13. Michael Mc Guinness  (continued)

proved to be hollow, filled with a dark colored fluid.
The mitral valve, as well as the chordae tendineae are thickened & shrunken.

Right lung was emphysematous. En apex of U. L. there
is a cavity (size of orange) having thick fibrous walls.
Scattered throughout the lung were numerous fibrous
tubercles.

Left lung was emphysematous. At apex of U. L.
there was an irregular cavity, throughout the remainder
of the lung there were scattered fibrous tubercles.
Cases of Cardiac Fatty Degeneration.

1. James Reid, age 52, clerk.
   Adm. June 14, 90. Died June 17, 90.
   (No clinical notes found.)
   Heart. 11/2 yrs. Aortic, mitral, pulmonary valves
   slightly thickened. There was marked fatty degeneration
   of the right ventricle, the degeneration extending into the
   substance of the muscle. On the left side the muscle
   was thicker than normal.

   Right Lung. At apex of v. z. there was a crumbling
   calcareous mass (size of Spanish nut) enclosed in a fibrous
   pigmented capsule. A few small fibroid nodules (size
   of hemp seed) throughout the lobe, and also a few in the z. z. were
   found.

   Left Lung. V. z. there were similar nodules as
   those found in v. z. of right lung. z. z. contained no
   granulations.
2. Rose Smith, aet. 22. single. Barmaid.
Adm. Nov. 3. 08. Died Jan 24. 09.

Patient had measles aet. Had good health till
June '88 when she suffered from ulceration of the throat
which was followed by cough and expectoration. These
conditions prevailed for a month when she had an
attack of haemoptysis. For last 6 months she has lost in
weight and has suffered from night sweating. Lately she
has suffered from dyspnoea which had pneumothorax during illness.

Heart. 932. Muscle pale & streaky. The right ven-
tricle was in a state of fatty degeneration. Great dilatation of
muscle.

Right Lung. U. E. In front, the apex was occupied by
a large cavity filled with cheesy débris, otherwise there
were numerous suppurating cavities. Posteriorly, near
the base, there was an opening in the pleura, leading
into one of these cavities. M. was airless & studded with
small softened caseous nodules. L. collapsed &
contained similar deposits, becoming coarser towards base.
At apex along upper ¾ of the posteriorly were many
suppurating cavities.

Left Lung. U. E. Was studded with coalescing caseous
nodules. Recent cavities posteriorly were numerous,
- towards the front near its centre, was a large recent cavity
with caseating walls. L. contained caseous tubercles,
becoming coarser towards base. Recent cavities were found
near the apex.
James Gidlow, aged 54, married. Chief constable.

Adm. Nov. 2, 96. Died Nov. 5, 96

No illness previous to date of this year. His symptoms began with cough & expectoration, followed by dyspnoea & loss in weight. Edema of legs & ankles, general helplessness which was extreme on admission.

Heart: Qr. qrs. Was enveloped in large masses of fat. The right ventricle was thin-walled & greatly dilated; the muscular walls were reduced to a thin layer of pale muscular tissue, by dense fatty infiltration. Left ventricle was less fatty. Mitral & aortic valves were atheromatous.

Right Lung: In its lower half there were numerous small caseous patches, between which there was much diffuse broncho-pneumonia. Mucus was emphysematous, contained caseous nodules, surrounded by broncho-pneumonia. L. & contained numerous miliary tubercles equally distributed.

Left Lung: The entire l. presents a honey-comb caseous appearance with small intercommunicating cavities, having caseous walls. L & contained large numbers of caseous nodules + miliary tubercles which were most numerous at the base.
Dr. George Ducklin, aged 66, married, gardener.
Adm. Aug. 4, 93. Died Aug. 9, 93.
Patient had good health until last June, when he caught a chill - was ill in bed for 14 days, suffering from cough, expectoration, soon afterwards being accompanied with dyspnoea. A fortnight ago he had to give up his work. From commencement of illness he has rapidly lost in weight - for some time back has suffered from oedema of legs & feet, accompanied with numbness-stiffness.

Family history. Father died at 62 yrs, mother died at 52 yrs.

Heart. 1½ yrs. There was advanced fatty degeneration of both ventricles, right being extremely thin & pale, the musculi papillares & columna carnea were pale & fatty. There was great dilatation of the cardiac walls.

Right Lung. U. L. contained a few small cavities, otherwise it was closely packed with yellowish, grey tubercles. U. R. similarly contained early caseating tubercles. L. L. contained a few sparse, arranged granulations at the upper part behind, being otherwise congested.

Left Lung. Whole U. L. was honeycombed with small cavities size of peas - also contained caseating tubercles but were not surrounded by fibroid tissue. Whole U. R. was filled with caseating tubercles.
5. Henrietta Campbell, age 45, married.

Adm. Feb. 22, 94  Died Mar. 9, 94.

Patient had neuralgia w/shock w/ cough in childhood. Present illness began 18 months ago w/ frequent attacks of sickness & vomiting, which continued for three months. After this she began to cough & expectorate slightly on one occasion coughed up 1/2 oz of blood. For last 6 months she has lost in weight, dyspnea increased, with night sweats. Has had occasional attacks of sickness vomiting during her present illness.

Family history: Father died at 49, mother died at 61, sister died?

Heart: 11/2 oz. Marked dilatation of the muscle walls, especially of the right ventricle, which was very thin. The whole muscular structure being in a state of fatty degeneration.

Right Lung: was converted into a large cavity, having walls thick anteriorly, thin posteriorly. M.L. contained closely aggregated tubercular caseating nodules, one or two small cavities. L.L. after contained tubercular caseating nodules, towards base, the surrounding lung being pneumatic.

Left Lung. U.H. upper half was in a condition of yellow caseous consolidation. L.L. contained scattered nodules, many of which were surrounded with pneumatic areas.

Adm. Sept. 12, 94. Died Nov. 5, 94.

Act. 16, he had small pox, 3 years ago caught cold, suffered from cough & expectoration, being accompanied with haemoptysis. Occasional attacks since. During last year, he has lost in weight, at present suffering from cough, expectoration, pain in right side, night sweats & marked dyspnoea.

Family history. Father died 47; mother died 92; sister died 47.

Heart. No go. All the cavities were markedly dilated. There was no hypertrophy or vascular disease. The muscular papillaries were distinctly fatty. Right pulmonary artery was blocked by a clot, which reached to the origin of the vessel, so extended into the main branch to the U. & only, where it changed from red into white, adherent, almost calcareous clot, ending in a fibrous mass in the floor of a cavity beyond this.

Right Lung. U. & contained deeply pigmented fibrous tissue, there being a cavity at apex, size of an orange, with wall thin and in thickness. Deep in the anterior portion of lobe, was another small cavity (size of walnut). Otherwise the lung was composed of semi-crenaceous, semi-calcareous tuberele. Both M. & L. were extremely contracted, consisted of dense fibrous tissue, which was white at the base.

Left Lung. In anterior portion of L. were some yellowish white nodules of fibroid tuberele. Two large dense nodules at the posterior part of base, otherwise lobe was intensely fibroid.
Theresa Wingfield, age 41, married


(Note clinical notes found.)

Heart. 11/2 oz. There was dilatation of the cavities; much
fat was deposited on the anterior wall, muscle being pale,
flabby and fatty.

Right Lung. v.f. There were a few small recent
cavities, having tubercular deposits in the walls; otherwise,
the lobe was in a state of caseous bronchopneumonia. In the
upper part of r.f. there were deposits of grey tubercle, otherwise
l.f. was congested.

Left Lung. v.f. contained numerous grey tubercle studded
throughout. l.f. was partially collapsed having at its inner
lower edge a large wedge of caseous pneumonia, which was
hard. Miliary tubercle imprints were distributed throughout.
8. Ellen Manger aged 32 single servant:

Adm. Feb. 20. 91. Died Apr. 20. 91.

She was an in-patient here 12 months ago, since which she has suffered from cough, expectoration, pain in the left side, dyspnœa, has lost in weight.

Heart: bgs. There was considerable dilatation of the cavities. Cardiac muscle was pale & fatty, as were also the papillary muscles.

Right Lung: There were medium sized cavities in v. t. & much fibrosis. Superficially there was emphysema & some calcareous deposits at apex. At upper part of t. v. there were many recent tubercular deposits.

Left Lung: Was shrunken to half its normal size, in v. v. there was a large circular cavity having tough fibrous walls.
John Todd, aged 50, married Huntsman.


Patient had rheumatism or rheumatic fever 16 years ago, bronchitis for some winters previously, pneumonia of left side 4 years ago, pleurisy of left side 10 months ago. He was in St. Mary's Hospital a year ago, suffering from lung disease.

He gave a history of the excessive use of alcohol, a also of the fracture of several bones. Recent illness began with pleurisy from which he never recovered, suffering from coughs, expectoration sometimes being bloodstained, excessive night sweats, a marked dyspnoea.

Hoarseness of voice, accompanied with pain in swallowing. These symptoms, together with loss of weight, have become more marked during last three months.

Heart. 10½ oz. There was hypertrophy of both sides of the heart, heart muscle being pale, soft, fatty, as were also the papillary muscles. The coronary arteries were tortuous.

Right Lung. Throughout the whole lung there were recent deposits of tubercle, half as large again as splint-like.

Left Lung. In upper 7/8th substance was honey-combed with cavities containing greenish fluid, the intervening tissue being occupied by caseous deposits & fibrous tissue.

Adm. May 4, 91  Died. May 14, 91.

Patient had typhoid fever, aged 91. The onset of the present illness was gradual, since last winter, when he began to suffer from cough & expectoration, which have continued until 2 months ago when he had to give up work on account of weakness, being accompanied with night sweats & loss in weight, while during the last three weeks he has suffered from great dryness of mouth. Examination of sputum, on May 91, showed tubercle bacilli to be very numerous.

Family history. There is no history or collateral of it, but his father is alive, suffering from rheumatism & gout. One sister died.

Heart. 110, Q. The tricuspid orifice admits tip of five gloved fingers. The muscular structure was fatty - the papillary muscles were streaked with fatty degeneration. The right heart was dilated.

Right Lung. U.E. contained a large ragged cavity & recent tubercular deposit. M.E. was also infiltrated. E.E. was almost solid with tubercular deposits, showing a radiating arrangement round the bronchial tubes, & numerous small cavities were observed.

Left Lung. U.E. contained numerous small cavities & caseating masses. E.E. contained infiltrations, & much recent tubercular deposit, the lower third was congested & scattered throughout were a few nodules of recent tubercle.
William Wheeler. act. 20 married. laborer.


(Vocill for history to be taken) Cough & weakness
for two months, on admission was markedly cyanosed.
Respirations 56. Pulse 144. Temperature 100°

Heart. 11 ozs. Enlarged, cavities all dilated, muscle
plate & affected by extensive fatty degeneration & infiltration,
as proved by the examination under the microscope.

Lungs. Throughout both there were numerous deposits
of recent tubercle. In v. of left lung there was a small cavity
around which were calcareous masses.
Aneurysmal bases.

1. Thomas Smith, act. 45, married, laborer.


Five months ago had inflammation of the lungs & bronchitis. Was ill in bed for a month. These were followed by dyspnoea & much cough, becoming much worse during last fortnight, accompanied by much pain in front of chest, especially the left side, & loss of weight.

Family history. Father died? Mother died? 3 brothers & 2 sisters alive well.

Heart. There was a large fusiform aneurysm of the aorta, commencing immediately above the valves, terminating at the origin of the left sub-clavian artery. The wall of the aneurysm consisted of vessel wall in a state of general atheroma. There was atheroma of the coronary arteries, which was so marked as to obliterate the orifice of the right coronary artery. The orifice at the origin of the left common carotid was also obliterated, the trunk of this vessel thus being rendered impervious. There was much atheroma of the thoracic aorta. The tricuspid & mitral orifices admitted the tip of 4 fingers. The aortic orifice was dilated, the valves atheromatous & thickened.

Right Lung. In right pleural cavity, there were 70 0zs. of dark colored serum, whole lung being oedematous & tough & carriified.

Left Lung. Pleural cavity contained 80 0zs. of serum. The base of lung was carriified. There were several fibro-fatty nodules in upper parts of both lungs.
2. Harriet Pierce. 22. single. domestic.


(No clinical notes found.)

On admission, there were signs of up in both apices. A tubercle bacilli were found in the sputum.

Heart. 220g. The aortic valves were incompetent. The pulmonic valves extensively diseased. Pulmonary artery considerably dilated. Pulmonary orifice admits tips of 2 fingers, its segments are healthy. Immediately above the valves, on the left side of the artery, there is a large mass of prominent granulations, some having narrow pedicles, hang free, but many are sessile. Contains soft caseous material. In places the intima was ulcerated irregularly. On tracing the artery up, an opening as large as a good sized guill was seen at the upper part of the left division, whose sides were roughened.

Besides the granulations on the aortic flaps, there were granulations and ulcerations over the orifice of the left coronary artery. On tracing the opening in the left pulmonic artery upwards, it is found to lead into the aorta, half an inch below left subclavian artery. The surrounding intima was thickened, and near it is another opening, with smooth and reddened edges (size of three penny bit). It leads into a sac, which extends about an inch upwards, lying on the trachea. This aneurysm contains dark clot.
Right Lung. The apex was puckered, and on section showed some irregular excavation. Towards the root of the lung, a large branch of the pulmonary artery was opened, and one of its branches was plugged by a caseous looking mass (size of a bean). Immediately in contact with the wall of the artery, a smooth-walled cavity was seen.

Left Lung. At the apex of the lobe there was a recent infarct. At the sternal margin of the lobe there was a collection of tough, yellowish nodules, and one or two small smooth-walled cavities. No recent tubercle was detected in either lung.
Robert Bulman, age 49, married, laborer.

Adm. Apr. 16 84. Died May 25 84.

Patient was in the army for 22 years and had dysentery in '70, was ill for 3 months. He had also frequent attacks of fever. 15 months ago he had cough, expectoration, much pain in right side, was ill in bed for 4 months, during which time he lost 21 lb in weight. He has suffered from pain on & off since. There is no history of syphilis. On admission, there was bulging on right side of chest in front, the surface of the chest showed many dilated vessels. The patient suddenly expectorated 1/2 pint of blood, having a very offensive odour, & died in less than half an hour.

Family history. Father died 81? Mother died of typhoid fever. 4 brothers, 1 alive well, 3 died in infancy. 6 children alive, well, 2 still born, 2 died in infancy.

Heart. There was a large aneurysm of the aorta, consisting of two imperfectly separated pouches, the first involving the first part of the arch, the other, the third part, & the contiguous part of the descending aorta. The first aneurysm was the size of a coconut, firmly adherent to the surrounding parts, having thin walls & contained beautifully laminated clot, 1/2 inch in thickness. The aneurysm projected to the right and upwards; but the innominate artery was not involved. The second aneurysm was smaller than the first, was firmly adherent to the spine, & caused slight absorption of the bodies of the
third and fourth dorsal vertebrae. This last aneurysm had ruptured into the oesophagus, just above the bifurcation of the trachea. The opening in the oesophagus was oval in shape (size of large bean). This aneurysm had thin walls & abundant laminated clot & was the size of an orange. The opening of the left carotid artery was somewhat obstructed. The descending aorta was extremely atheromatous. (Lymphatic glands in the anterior mediastinum were enlarged & contained miliary nodules). 

Right Lung. The visceral pleura was thickened at the apex, & in the lung substance there was a pigmented nodule. Lung was oedematous throughout & contained many pigmented patches.

Left Lung. The visceral pleura, as on the right side was thickened & studded with numerous miliary tubercles, & several nodules were found just under the pleura in the substance of the lung. Deeper down, there was situated in the lung, a nodule consisting of a small central caseous shot, enclosed in a very thick pigmented fibroid capsule.
4. Fred Hogben, aet. 64. Married. Publican.
Patient had bronchitis pleurisy 10 years ago. Present illness began 2 years ago with cough and expectoration, both of which became more marked last winter. He has been gradually losing in weight. For the last 10 weeks he has suffered from dyspnoea, occasional attacks of haemoptysis, increasing oedema of both legs.

Family history: Father, mother, sister all died of paralysis.

Heart: 8½ oz. The aortic valves were atheromatous, the aorta itself was studded with raised irregular patches. There was a dilatation, sufficient to contain a tangerine orange, immediately above the sinuses of Valsalva, which was raised depressed when the apex of the left lung. The aorta resumed its normal size at the junction of the transverse and descending portions of the arch.

Right Lung. There were two large cavities, one at lower part of U. L., filled with semi-fluid caseous material, another at the base of L. L., which contained 3 ozs of thick foul smelling fluid. There were several spheroidal cavities (size of hazelnuts) in the apical portion.

Left Lung. The upper third of U. L. was filled with calcareous deposits, which broke off when removing the lung. There were some small scattered greyish yellow points throughout the upper middle portion of the lung.
5. Jonathan Stull, act 43, married servant


(History could not be found)

Patient was much emaciated, cachectic, the mental faculties impaired. No loss of power in the extremities was made out. The arteries were rigid. The abdominal veins dilated on the surface of the heart. Ecg. At the upper margin of ventricular septum, at the undefended spot of Pericard, there is a distinct aneurysmal bulging toward the right ventricle (size of sphere). There is also an aneurysm of the sinus of Valsalva, corresponding to the origin of the posterior coronary artery. The coronary arteries are highly atheromatous. Calcareae dilated at their proximal ends.

Right lung: The extreme apex was fibrooid, huckeared in front, contained caseous patches. Throughout the U.L. & R.L. there were several small fibro-caseous patches.

Left lung: U.L. contains a large irregular cavity (size of orange) posteriorly, communicating with a chain of smaller cavities, running down the posterior border to the base. The anterior apex is somewhat fibrooid, contains numerous small caseous nodules, patches of catarhal pneumonia, in them yellowish points. Posteriorly, in L.E. there are caseous fibro-caseous points of various sizes, being most numerous at the upper border.
b. James Lambert, age 61, married, coachman.


Patient had influenza 5 years ago, & has suffered from
trouble of the chest since. Has always been a heavy drinker. For
last six months he has lost in weight. Present attack began
6 weeks ago, when he suffered from a sensation of tightness in
the chest, much dyspnoea, pain, cough & expectoration.

Family history. Father died.  Mother died during child-
birth. 2 brothers died.  2 children, alive, well.  4 died.

Heart. Immediately above the aortic valves, the aorta was
wides, dilated, atheromatous & formed a large friable aneurysm.
besides which, there are two saccules, both on the posterior aortic
surface, on the lower form a shallow cup, having an orifice
the size of a shilling, situated at the junction of the ascending
& transverse portions of the arch. The floor of this saccule is
covered with irregular adherent clot & in contact with the right
bronchial aortica it emerges from the trachea. Immediately above
this saccule, in the centre of the posterior wall of the transverse
arch, there was a larger, deeper saccule, filled with lam-
inated clot, which is ulcerated. The trachea is perforated at
two spots, 1½ inches above the bifurcation, this sac bulges on
the trachea, reduces its calibre by one half. The recurrent
laryngeal nerve was stretched over the back of the sac.
The remainder of the aorta is atheromatous.

(over)
6. James Lambert. (continued)

Right lung. In centre of U.L. there was a globular cavity, having indurated-pigmented walls, at one shot in them there was a cretaceous nodule. The whole of the surrounding portion of the lung was infiltrated with grey tubercular areas, spreading by numerous miliary foci at their edges. The remainder of the lung was sharply infiltrated with small miliary tubercles, excepting the M.L. which had only one grey area at its edge.

Left lung. The main bronchus to U.L. was ulcerated and dilated, the contiguous parts of the lung around it contained numerous grey patches of tubercle, otherwise the lung contained here and there, a small grey tubercle, a few miliary tubercles.
Richard Lightfoot, act 35. Carriage trimmer.

Adm. Sep. 6, q. 6. Died Nov. 1, q. 6.

For many years has had a winter cough, two years ago had pleurisy of left side. In June q. 6, had attacks of haemoptysis, has had several attacks since, one of which was fatal.

Family history. Mother died, act 50, q. 4.

Heart 110 q. The first part of the aorta, immediately above the valves was slightly dilated, at the junction of the first transverse portions there was an aneurysm (size of large orange). This aneurysm occupied the whole of the transverse third part of the aortic arch. Its walls were of great thickness hardness with patchy calcareous plates on the posterior wall of the aorta. The aneurysm was situated somewhat to the left of the middle line, it was perforated by an opening (size of shilling) communicating through the anterior wall with the left bronchus at the bifurcation of the trachea. The perforation extended completely through the posterior wall of the bronchus into the trachea into the bronchus, which when laid open from behind, presented at this spot, a large opening with ragged edges, which was covered by a large rounded mass of decolorised clot.

Right lung was emphysematous, but no tubercles anywhere.

Left lung. Left bronchus had its walls completely in approximation to the bulging backward of the aneurysm. Its branches to the lobe were dilated, but most of these to the lungs into an extensive series of ragged cavities at the base, whole pleura being very thick. The upper half of the lung was compressed, contained numerous fibroid areas, also many cavities, with thin walls near the surface, the middle organised. Stays one large cavity with thick walls. At base, many cavities, near extremity bases in one.
8. George Macartney, married, laborer in gasworks.
  Patient had good health till 1912, when his chest was crushed with machinery; expectorated a small amount of blood, which was soon afterwards followed by cough. In 1912 he had another attack of haemoptysis, again in July 1917, both being severe attacks. Since the accident he has lost in weight. On admission he suffered from cough, expectoration, marked dyspnoea, anorexia and general debility.

  Family history. Father died by accident, mother died. 2 brothers, 1 alive but suffer from bronchitis, 1 died. 2 sisters, 1 alive, well. 1 died at infancy.

  Heart, 19½ oz. There was extensive atheroma of the aortic wall of the intimal value. At the apex of the left ventricle, encroaching upon the wall of the septum, there was a large cup-shaped patch of endocardium, which was completely calcified and penetrated deeply into the hypertrophied septum. There was much fibrous degeneration of the cardiac muscle, surrounding this aneurysm.

  Right lung, v. 1. was contracted, covered with thick fibrous tissue. The lung contained a large cavity (size of orange) having dense fibroid walls. There were a few small old cavities posteriorly, v. m. contained a few small cavities and fibrous scar tissue. m. at tips contained an oval cavity with thick fibroid walls, many fibroid tubercles.

  Left lung was emphysematous. v. 1. contained one or two deeply seated cavities, scattered fibroid tubercles. At base of m. anteriorly there were some fibroid tubercles.
Thomas Farkees. act 51. married. 

Carpenter 


Patient had scarlet fever act 2/2, 10 years ago was in St. Mary's Hospital suffering from cough pains in left side. Worked after wards till 6 years ago, when he had influenza & was ill fourteen months. (Pain in points severe.) slight attacks of influenza each winter since. During last year attacks were frequent. Has not worked since last March, when he had an attack of hemoptysis. On admission suffered from cough, expectoration, which was blood stained, pain, night sweats & dyspnoea, and has been wasting for some time back. All his arterial system is extremely athromatosus. In October 97, the examination of sputum shewed abundant tubercle bacilli to be present.

Heart. Whole arch of the aorta was athromatosus & calcareous, could only be cut with great difficulty. On left posterior wall, 1/2 inch above the aortic valves, an oval opening led into a globular aneurysm (size of tangerine orange) lying mainly to the left of the aorta & entirely filled with laminated clot. It compressed the left auricle, pulmonary veins. to some extent the superior vena cava. The coronary orifices were reduced to oval slits.

Right lung, v.r. showed almost entire excavaition, only a few shreds, much caseous material could be seen. At apex of r., there was a cavity (size of orange) & a smalless beneath it, otherwise small fibroid & fibrinous masses throughout the lung.

Left lung. Freely infiltrated with fibroid tubercles & a ragged cavity at apex was formed of caseating fibroid tissue, densely fibroid walls & some tubercles around it.
Congenital Cases.


Adm. Dec. 31, 81. Died Jan. 82. (Fate unknown.)

No illness previous to 4 years ago, when he accidentally lost his balance in a lift, fell into the pit, injuring his chest, since when he has never been well. He has had frequent attacks of haemoptysis which were severe on 8 or 9 occasions. The last severe attacks occurred on Dec. 23, 30 or 31. On admission, he looked anxious, complained of pain in the third left intercostal, where a thrill was felt. His temperature was 101, there was a universal heat over the chest, he had signs of pleurisy over both sides. On Jan. 6, he had an attack of haemoptysis, the sputum being bloodstained for 24 hours, accompanied with severe dyspnœa, from which he never rallied.

Family history. 1 brother died 4, + wife died 4.

Heart. 17 oz. Right ventricle presents a remarkable malformation. The tricuspid orifice is free, but the valve flaps do not close perfectly, one of them being held back by its abnormal connection. It walls exceed in thickness those of left ventricle. The ventricular cavity which occupied a much larger space than normal, was divided into an upper chamber, situated anteriorly at root of pulmonary artery, was capable of accommodating a large maltese orange, into a lower chamber; quite as capacious as a normal right ventricle, communicating freely with the auricular cavity by means of the tricuspid orifice. The septum between the two chambers was
continuously, the muscle of the outer anterior wall of the heart. Indications of the columnae carneae were visible at the surface. The thickness of this septal muscle was fully 1/4 inch. The separation between these two chambers would have been complete but for a short channel of communication situated immediately in front of the tricuspid orifice, running obliquely to the outer part of the floor of the upper chamber. Three of the chordae tendineae formed a papillary muscle, but no valve flaps existed. (It appeared probable that recent ends. cardiac existed in a around the abnormal channel of communication). Some thickening of one of the aortic flaps was induced by an implication of the upper part of the septum in the fibrosis around this orifice, but the aortic valve was competent.

Right lung. There was an orange sized cavity, having thickened, pigmented walls, thin purulent contents at the apex. There was an isolated cavity in the mid sternal region, another in the axillary region, a third at the base of the lung, otherwise the lung contained scattered nodules of tubercle throughout.

Left lung. The upper part of the lung was more or less fibroid, containing a few groups of tubercles. At the mid sternal border, there was a patch of dark pigmentation beneath which there was a dense fibrous fibrinous mass (Recent haemoptysis). Another mass was observed immediately below it. In the anterior axillary line there was a cavity, posteriorly an irregular cavity occupied the middle part of the apex, containing a small amount of old yellowish material. While nodules were seen at base of old fibroid tubercles throughout the lung.
2. Susan Meade, age 42, at home

Adm. Oct. 24, 82. Died Dec 23, 82. (Fatal haemoptysis)

Patient has had scarlet fever, rheumatic fever, and measles.
Present illness began 10 months ago with a chill, followed by cough, expectoration (occasionally bloodstained), night sweats, dyspepsia, abdominal pain, & shortness of breath, which had become more troublesome of late.

Family history: Father, mother, alive; 6 brothers alive & well; 2 sisters alive, 1 died 4.

Heart: 5 oz. The pericardium contains 2 ozs., clear fluid.
The foramen ovale was patent, having an opening large enough to admit a crow quill.

Right Lung: 1 oz. There was a thin walled multi-cavitory cavity near the surface posteriorly, another smaller one anteriorly. It contained numerous racemose growths of miliary tubercles. Its upper part contained some small irregular cavities, otherwise there were pneumonic infiltrations & some firm yellow tubercles.

Left Lung: 1 oz. converted into a thin walled cavity, 2 oz. At its upper part there were numerous irregular cavities, much fibroid induration, abundant miliary tubercles, & at the base racemose groups. At its lower part also some well defined nodules, a few small cavities.
Robert Morrison. aged 52. single. cellerman.
Patient was quite well until 2 years ago, when he was in St. Thomas' Hospital suffering from heart disease, but previous to his admission there, he had an attack of haemoptysis, which was followed by dyspnoea, anorexia, and suffered from cough, expectoration, night sweats and loss of weight, vomiting occasional attacks of haemoptysis.

Family history. Father died 4. aged 99. Mother died cancer. aged 45. Brother died. aged 44. scarlet fever, 1 alive well. Sister. alive well. 1 died.

Heart. The right branch of the pulmonary artery was represented by a small aperture, ½ inch in diameter, having slightly puckered walls. It led directly into the right pulmonary artery, which was much less than normal size. Thus. The right branch of the pulmonary artery was constricted.

Right Lung. contained several contracted cavities with smooth walls, in which were a few milky tubercles. Anteriorly, there were some cystic cavities filled with caseous material. Apical contained a large oval cavity, at first having smooth walls, one or two smaller cavities near the base, otherwise there was considerable emphysema. Some milky tubercles, which also appeared in anterior.

Left Lung. Engorged. Emphysematous. The anterior surface was filled with pale grey semi translucent tubercles.


His mother said that the patient began to get blue at age of 6. but had had no definite illness till 5 years ago, when he caught cold, suffered from cough which has more or less continued since. In July, 96, cough became more troublesome, was accompanied with dyspnoea, which rendered him unable to work. Present illness began 10 months ago with pains in chest, cough & expectoration, nightsweats, followed by loss in weight, extreme dyspnoea. Six weeks ago, he noticed his feet swollen at night. These symptoms together with cyanosis were recognized on admission.

Family history. Father alive well. Mother alive, but had four attacks of rheumatic fever. Sisters 3 alive but 2 died. No family history of 4.

(Patient's sputum on 23/4/97 & 25/4/97 showed presence of tubercle bacilli)

Heart. 8 yrs. There is a large opening in the ventricular septum at its extreme upper part, an inch in diameter, a lined by smooth membrane. The triaortic valves were thickened, had a vegetation on the anterior cusp. The pulmonary orifice was stenosed, & only two cusps were present.

Right Lung. There was a large ragged cavity at apex of lung, small ones scattered throughout. Some cavities were found at the apex of lung. Scarcely any part of the whole lung was free from tubercle.

Left Lung. There was diffuse cavitation. At apex of lung, there was a large thin walled cavity, another about its centre. The base of lung was fairly free from tubercle & deeply congested.
5. Arthur Gibson, age 21, single, pianoforte finisher.


Patient never had good health, but no definite illness until a year ago, when he began to suffer from cough and expectoration. During following 3 months lost 1/3 stone in weight. In March 92 he had two severe attacks of haemoptysis. On admission there were signs of Y in both lungs. There was no family history of rp.

Heart, q o. There was a congenital malfunction of the aortic valve. The right coronary cusp was partially divided into two, one was much larger than the other two. There were two ostia.

Rt. Lung. The apex was occupied by a large old cavity having smooth walls, communicating by small openings with several other smaller cavities, also having smooth walls. In both M.T. and L. T. acute present tubercular infiltrations produced consolidation at the base of L. T. there was a recent cavity.

L. T. Lung. was the seat of tubercular consolidation throughout. In middle of L. T. there was a recent cavity.

(N.B. The affection of left lung was evidently altogether of recent acute origin.)
Samuel Kistow.  age 32.  married  catman.


Patient had scarlet fever at 14, since 14, he has suffered from occasional attacks of dyspnoea which caused him to give up work, two or three times during the year. He has been a heavy drinker for many years. Two years ago was an in-patient, suffering from pains over cardiac area, between the shoulders, had an attack of haemoptysis, sputum being blood stained for a month before admission. Last Xmas, he suffered from cough, expectoration, extreme shortness of breath, neuralgic pains in side of the head. On admission he was found to be heavily developed, cyanosed, markedly dyspnoic, breath having earthy odour. Clubbed fingers, deformed cyanotic nails.

Examination of sputum 14, 92. showed presence of tubercles bacilli.

Family history. Father alive 1 well, mother died 1. also sister 1. child died 1.

Dec. 13, 92. The pulmonary orifice was reduced to one half of its normal size, was guarded by two segments only. These segments were thick fibrous semi-cylindrical. The sinuses behind them were deeper than usual. Below the valve segments was partly continuous above with them there was a fibrous band, which formed the upper border (from the right side) of a large opening between the ventricles. At the upper portion of the interventricular septum. This foramen was large enough to admit the thumb easily. It was replaced with reference to the aortic orifice, that the blood from the right ventricle
must have been nearly equally divided between the pulmonary artery & the aorta). The pulmonary artery & its branches were both, only about half their usual size. The walls of the right ventricle were nearly as thick as those of the left.

Right lung. v.l. contained many cavities which had toughened fibrous walls, otherwise the lobe was similar to the N.L. v. contained much fibrosis & many chronic acidi tubercles. l.v. was tougher than normal & had fibroid pigmented, e. a few yellow tubercles scattered throughout. Posteriorly, the lobe was partially consolidated - there were many miliary tubercles.

Left lung was more bulky than the right, scattered throughout both lobes were numerous yellow tubercles or a few small nodules. v.l. was oedematous.

(N.B. The tubercular process thus was uniformly chronic, with the exception of the miliary tubercles, in the right lung which were acute, only a very few acute nodules being in the left lung.)
William Deprey, aged 32, married, farmer.
Adm. Feb. 27, 93 Died. Apr. 14, 93.
Patient has been suffering from chest disease for last 8 months, symptoms being cough, expectoration which was bloodstained, dyspnoea and pain.

Family history. Father alive, well mother died 47, sister died 42, 3 children, 2 alive, 1 died bronchitis.

Head 7½, go. The foramen ovale was patent between the two auricles, the valve only partly covering it but not adherent.

Right Lung. U. L. The whole, with the exception of a wedge-shaped portion anteriorly was almost entirely excavated, the wall of the cavity being fibrous. In some places the wall was formed by a little more than pleura. Below the septum, there was a communication established with L. L. Anterior portion contained small cavities & caseous patches. In the posterior central portion of the M.R. L. there was a deposit of caseous tubercle.

Left Lung. U. L. was almost totally excavated excepting a fibrous caseous consolidated portion anteriorly. L. L. was similar to that on right, but more extensively affected.
8. Victor Pashley, 20. single, father

Patient has never been strong. He has suffered from numerous facial abscesses and also in the axilla for the past 5 years. He has been a heavy drinker of beer for 3 years. Seven last March he has suffered from cough, sickness, expectoration, night sweats, loss of weight, pain in left side, swelling of feet at nights, but was able to work until about 6 weeks ago when cough increasing dyspnea, general weakness forced him to give up.

Family history. Father died at 67 of asthma. Mother alive at 62 as well. 2 brothers alive well. 1 died 84. 19. some of mothers brothers died 4. 3 sisters alive well.

Heart. JGS. The foramen ovale was patent, the opening being large but valvular.

Right Lung. A large cavity occupied upper part of.
Lower half of lobe was riddled with small pus containing cavities as was also the M. L. upper half of L. but the L. contained scattered tubercles was indurated.

Left Lung. V.E. The upper half was completely evacuated, lower half being honey combed & contained caseous areas. The upper half of L. was excavated & the cavity contained much purulent debris. The walls contained breaking down caseous areas. Remainder of the lobe was infiltrated with caseous broncho pneumonia.